ಬೆಂಗಳೂರು ಮೆಟ್ರೋ ರೈಲ್ ನಿಗಮ ನಿಯಮಿತ
BANGALORE METRO RAIL CORPORATION LIMITED

BANGALORE METRO RAIL CORPORATION LTD

(A joint venture of Government of India and Government of Karnataka)

O&M Wing, Baiyappanahalli Depot,

Bangalore-560038, Karnataka, India

Telephone : 080 - 25191038

Tender document for

ANNUAL MAINTENANCE CONTRACT (AMC) OF 33 KV SWITCHGEARS, DRY TYPE TRANSFORMERS, ACDB, DCDB AND BATTERY BANK AT REACH-5 AND REACH-6 (ELEVATED) STATIONS INCLUDING DEPOTS

VOLUME 1

QUALIFICATION CUM TECHNICAL PACKAGE

Tender reference	BMRCL/O&M/33 KV AMC-R5&R6/01
Period of sale of tender document	30 days
Last date for sale of tender document	As per Date and Time specified in Karnataka Public Procurement Portal (eProcurement Portal)
Last date and time for receipt of tenders	
Time and date of opening of tenders	
Place of opening of tenders	Online through Karnataka Public Procurement Portal (eProcurement Portal)
Address for communication	Office of the Manager (Traction), Bangalore Metro Rail Corporation Limited, Metro Rail Depot, Peenya, Ravi Kirloskar Hospital Road, Peenya 1st Stage, Bangalore – 560058, Karnataka, India Ph No.: 080-25191038

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SECTION 1: INVITATION FOR TENDERS (IFT)

Tender ref No.: BMRCL/O&M/33 KV AMC-R5&R6/01

1. Bangalore Metro Rail Corporation Ltd invites tenders from eligible tenderers (Single stage - Two Cover System), for the works detailed in the Table below through Karnataka Public Procurement Portal (e-Procurement Portal) of e-Governance Department, Govt. of Karnataka (https://kppp.karnataka.gov.in) The tenderers may submit tenders for the works given in the Table.

2. Tenders must be submitted electronically through Karnataka Public Procurement Portal / e-Procurement Portal (https://kppp.karnataka.gov.in/) before the last date & time prescribed in the e-Procurement Portal.

3. Tenders must be accompanied by earnest money deposit specified for the work in the Table below. Earnest money deposit will have to be in any one of the forms as specified in the Tender document and shall have to be valid for 45 days **beyond** the validity of the tender.

4. A Pre-tender meeting will be held on the Date and Time Specified in e-procurement portal at the office of Bangalore Metro Rail Corporation Ltd (O&M Wing), Baiyappanahalli Depot, Administrative Building, Near NGEF Signal, Old Madras Road, Baiyappanahalli, Bangalore- 560038, Karnataka, India. Email : prasadsindhanakeri@bmrc.co.in Ph No 080 – 25191038, to clarify the issues if any, and to answer questions on any matter that may be raised at that stage as stated in Clause 8.2 of 'Instructions to Tenderers' of the tender document.

5. Other details can be seen in the tender documents.

TABLE-1

Tender ref No	Name of work	Earnest Money Deposit	Period of Contract	Tender Validity
1	2	3	4	5
BMRCL/ O&M/ 33 KV AMC-R5&R6/01	Annual Maintenance Contract (AMC) of 33 kV Switchgears, Dry Type Transformers, ACDB, DCDB and Battery Bank at Reach-5 and Reach-6 (Elevated) Stations including Depots	₹ 14,14,000/-	05 Years	120 days

Seal of office

-x-x-x-

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A. GENERAL

1. Scope of Tender

1.1 BMRCL (Referred to as Employer in these documents) invites tenders following Single stage - Two Cover System procedure, from eligible Tenderers, for the works (as defined in these documents and referred to as "the works") detailed in the Table given in the Invitation for Tenders (IFT). The Tenderers may submit tenders for the works detailed in the table given in IFT.

2. Eligible Tenderers

2.1 Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Government of Karnataka or Government of India.

2.1.1 The Bidder should not have been blacklisted / debarred / declared ineligible for award of contract by any Government / Government undertaking / semi-Government / Govt. Controlled Institutions/ projects in India, during last five (5) years. Also, the Bidder should not have rescinded the work after award of the Contract during last five (5) years. The Bidder shall provide an Undertaking as provided at **Additional Document–1** detailed under Section 10 : Additional Documents

Note: Last five (5) years shall be counted from 28 days prior to the date of submission of the Bid.

2.1.2 The Bidder shall provide an Undertaking as provided at **Additional Document – 2** detailed under Section 10 : Additional Documents

2.2 **Countries sharing land border with India**

2.2.1 Any Bidder from a country which shares a land border with India will be eligible to bid in this bid, only if the Bidder is registered with the Competent Authority. The Competent Authority for registration will be the Registration Committee constituted by the Department for Promotion of Industry and Internal trade (DPIIT). For details refer to order (Public Procurement No.1) F.No.6/18/2019-PPD dtd.:23/07/2020, MoF, Dept. of Expenditure, PPD and its latest amendments.

2.2.2 This clause will not apply to Bidders from those countries (even if sharing a land border with India) to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects.

2.2.3 All the participating Bidders are mandatorily required to submit a certificate along with the bid regarding their compliance with this clause/order in regard to restrictions of procurement from the Bidders from countries sharing land borders with India as per the format included in **Additional Document – 3** detailed under Section 10 : Additional Documents. If such certificate given by a Bidder whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law.

2.2.4 Tenders from Joint ventures are not acceptable.

3. Qualification of the Tenderer

3.1 Work Experience

3.1.1 Tenderers who meet the below specified minimum Qualification Criteria will only be qualified.

a. Original Equipment Manufacturers (OEM) who have Experience in Manufacture of 33 kV Switchgear with Vacuum Circuit Breaker (VCB) and supplied to at least 20 no's of Sub Stations in Railway Stations/Metro Stations/ Energy Utility Sector, where each Sub Station is Equipped with 33 kV Switchgear with Vacuum Circuit Breaker of qty at least 6 no's in a period of Last Seven (7)^ years

or

b. EPC Contractors who have Experience in Supply, Erection, Testing and Commissioning of 33 kV Switchgear with Vacuum Circuit Breaker in at least 20 no's of Sub Stations in Railway Stations/Metro Stations/ Energy Utility Sector, where each Sub Station is Equipped with 33 kV Switchgear with Vacuum Circuit Breaker of qty at least 6 no's in a period of Last Seven (7)^ years.

or

c. Contractors who have Minimum Two (02) Years of Experience in AMC of 33 kV Switchgear with Vacuum Circuit Breaker in at least 20 no's of Sub Stations in Railway Stations/Metro Stations/ Energy Utility Sector, where each Sub Station is Equipped with 33 kV Switchgear with Vacuum Circuit Breaker of qty at least 6 no's in a period of Last Seven (7)^ years.

3.1.2 The Tenderer should demonstrate with valid document, having a tie up with the OEM/ authorised channel partners of OEM of Switch gears i.e. Schneider make, to provide support for supply of Spares.

3.2 Satisfactory Work Completion

The Tenderer should have successfully completed / substantially completed satisfactorily, similar* works during the last Seven (7)^ years in Railway Stations/Metro Stations/ Energy Utility Sector, as under

i. One Similar work of value more than INR 150 Lakhs

or

ii. Two Similar works of value more than INR 94 Lakhs

or

iii. Three Similar works of value more than INR 75 Lakhs

*Similar work means

a. Manufacture and Supply of 33 kV Switchgear with VCB in Sub Stations in Railway Stations/Metro Stations/ Energy Utility Sector

or

b. Supply, Erection, Testing and Commissioning of 33 kV Switchgear with Vacuum Circuit Breaker in Sub Stations of Railway Stations/Metro Stations/ Energy Utility Sector

or

c. AMC of 33 kV Switchgear with Vacuum Circuit Breaker in Sub Stations of Railway Stations/Metro Stations/ Energy Utility Sector

Note:

1) The Tenderer should submit the Work experience certificate issued by the client for having executed the works.

*2) 'Satisfactory completion' means Substantial completion of **50%** or more work under the contract.*

3) ^The last Seven (7) years means the last Seven (7) years counted 28 days prior to date of Tender Submission.

3.3 Financial Capabilities

Each Tenderer should further demonstrate:

a) **Annual Turnover:** Achieved a minimum annual financial turnover of INR 377 Lakhs in at least two of the last five financial years. (i.e., FY 2020-21 to FY 2024-25). The Bidder shall furnish Turnover Certificate and Financial data certified by Practicing CA as per **Additional Document – 4** detailed under Section 10: Additional Documents.

b) **Liquidity:** Access to Liquid Assets and /or availability of credit facilities of not less than Rs. 47.13 Lakh (Credit lines/ letter of credit/ certificates from banks for meeting the fund requirement, etc.). The Tenderer shall furnish Banker's Certificate as per Clause 1.7 of Section 3: Qualification Information.

c) **Net Worth:** As a minimum requirement, the Tenderers net worth, calculated as defined in **Additional Document – 4 (**detailed under Section 10: Additional Documents) should be positive for the last Two (02) financial years.

Subcontractors' experience and resources shall not be taken into account in determining the Tenderer's compliance with the Qualifying Criteria

3.4 Local Content & Purchase Preference

3.4.1 Since, this Tender is for AMC, there is no restriction of local content. However, the Tenderer shall provide an undertaking that the local content towards manpower meant for AMC shall be 100%.

3.4.2 Further, a Tenderer who has been debarred by any procuring entity, for violation of any Procurement Preference Order/Policy, shall not be eligible to participate in this Tender process during the period of the debarment

3.5 Purchase preference to Micro and Small Enterprises (MSEs)

3.5.1 Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the Tenderer wants to avail the Purchase preference for services, the Tenderer must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the Tenderer in respect of the offered service.

3.5.2 If L-1 is not an MSE and MSE Service Provider (s) has/have quoted price within L-1+ 15% of margin of purchase preference /price band as defined in the relevant policy, then 100% order quantity will be awarded to such MSE bidder subject to acceptance of L1 Tender price.

3.6 The Tenderer shall furnish details as per Additional Document 6 & 7 detailed under Section 10 : Additional Documents, failing which their Tenders are liable for rejection

3.7 Sub-contractors' experience and resources shall not be taken into account in determining the Tenderer's compliance with the qualifying criteria.

3.8 In the case of the death of a contractor after executing the agreement/ commencement of the work, his legal heir, if an eligible registered contractor and willing, can execute and complete the work at the accepted tender rates irrespective of the cost of the work.

3.9 The Tenderer shall furnish details as per Additional Document 6 & 7 detailed under Section 10 : Additional Documents, failing which their Tenders are liable for rejection

3.10 All Tenderers shall provide the requested information accurately and in sufficient detail in Section 3: Qualification information.

3.11 Even though the Tenderers meet the above criteria, they are subject to be disqualified if they have:

- made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
- record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.; and/or
- participated in the previous Tender for the same work and had quoted unreasonably high tender prices and could not furnish rational justification.

4. One Tender per Tenderer

4.1 Each tenderer shall submit only one tender for one package. A tenderer who submits or participates in more than one Tender (other than as a sub-contractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Tenderer's participation to be disqualified.

5. Cost of Tendering

5.1 The tenderer shall bear all costs associated with the preparation and submission of his tender, and the Employer will in no case be responsible and liable for those costs.

6. Site visit

6.1 The Tenderer at his own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Tender and entering into a contract for construction of the Works. The cost of visiting the Site shall be at the Tenderer's own expense.

B. TENDER DOCUMENTS

7. Content of Tender documents

7.1 The set of tender documents shall have all the Sections given in Page 2:

7.2 Volume 1 and Volume 2 should be completed and submitted with the tender.

8. Clarification of Tender Documents

8.1 A prospective tenderer requiring any clarification of the tender documents may notify the Employer in writing or by mail at the Employer's address indicated in the invitation to tender. The Employer will respond to any request for clarification which he receives earlier than 15 days prior to the deadline for submission of tenders. Copies of the Employer's response will be uploaded in e-procurement portal, including a description of the enquiry but without identifying its source.

8.2 **Pre-tender meeting:**

8.2.1 The tenderer or his authorized representative is invited to attend a pre-tender meeting which will take place at the place indicated at Cl 4 of IFT Pg no 4 on the date & time indicated on e-procurement portal.

8.2.2 The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage

8.2.3 The tenderer is requested to submit any questions in writing or by mail to reach the Employer not later than one week before the meeting.

8.2.4 Minutes of the meeting, including the text of the questions raised (without identifying the source of enquiry) and the responses given will be uploaded in e-procurement portal. Any modification of the tender documents listed in Sub-Clause 7.1 which may become necessary as a result of the pre-tender meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 9 and not through the minutes of the pre-tender meeting.

8.2.5 Non-attendance at the pre-tender meeting will not be a cause for disqualification of a tenderer.

9. Amendment of Tender documents

9.1 Before the deadline for submission of tenders, the Employer may modify the tender documents by issuing addenda.

9.2 Any addendum thus issued shall be part of the tender documents and shall be uploaded in e-procurement portal.

9.3 To give prospective Tenderers reasonable time in which to take an addendum into account in preparing their tenders, the Employer shall extend as necessary the deadline for submission of tenders, in accordance with Sub-Clause 16.2 below.

C. PREPARATION OF TENDERS

10. Documents comprising the Tender

10.1 The Tender duly filled & signed and submitted by the Tenderer shall be in Two (2) Electronic Documents in e-procurement platform and shall contain the documents as follows:

10.1.1 Volume 1 :

(a) Earnest Money Deposit;

(b) Qualification Information as per formats given in Section 2, 3, 4 & 10;

10.1.2 Volume 2:

(a) Priced Bill of Quantities (Section 9); and no hardcopy of commercials should be attached or disclosed elsewhere

and any other materials required to be completed and submitted by Tenderers in accordance with these instructions. The documents listed under Sections 2, 3, 4, 6, 9 and 10 shall be filled in without exception.

10.2 **Original Documents (Hardcopy):**

The Tenderer is required to submit the following documents in original (hard copy) within the time and place mentioned in ITT clause 16.3:

(a) Tender Security/Earnest Money Deposit (EMD), as per clause 13,

(b) Notarized Power of Attorney and Board resolution (as applicable) as per ITT clause 14,

(c) All uploaded documents

(d) Hardcopy of any other documents explicitly required in Tender document.

In case of failure in submission of the above documents within stipulated date, the Tender may be treated as incomplete and be liable for rejection

10.3 Tenderers submitting tenders together with other contracts stated in the IFT to form a package will so indicate in the tender together with any discounts offered for the award of more than one contract.

11. Tender prices

11.1 The contract shall be for the whole works as described in Sub-Clause 1.1, based on the priced Bill of Quantities submitted by the Tenderer.

11.2 The Tenderer shall fill in rates and prices and line-item total (both in figures and words) for all items of the Works described in the Bill of Quantities along with total tender price (both in figures and words). **Items for which no rate or price is entered by the Tenderer will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices**

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in the Bill of Quantities. Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.

11.3 All duties, taxes, and other levies payable by the contractor under the contract, or for any other cause, except GST shall be included in the rates, prices and total Tender Price submitted by the Tenderer.

11.4 The rates and prices quoted by the Tenderer shall not be subject to adjustment during the performance of the Contract in accordance with the provisions of Clause of the Conditions of Contract

12. Tender validity

12.1 Tenders shall remain valid for a period not less than no. of days as indicated in column 5 of the Table-1 of IFT, after the deadline date for tender submission specified in Clause 16. A tender valid for a shorter period shall be rejected by the Employer as non-responsive.

12.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the Tenderers may extend the period of validity for a specified additional period. The request and the Tenderers' responses shall be made in writing or by mail. A Tenderer may refuse the request without forfeiting his earnest money deposit. A Tenderer agreeing to the request will not be required or permitted to modify his tender, but will be required to extend the validity of his earnest money deposit for a period of the extension, and in compliance with Clause 13 in all respects.

13. Earnest money deposit

13.1 The Tenderer shall furnish, as part of his tender, earnest money deposit in the amount as shown in column 3 of the Table-1 of IFT for this particular work. This earnest money deposit shall be in favour of Bangalore Metro Rail Corporation Ltd and may be in the form of

(a) Online payment through e-Procurement portal, or

(b) an irrevocable **Electronic Bank Guarantee (e-BG) or Bank Guarantee*,** issued from an Indian Scheduled Bank (excluding Cooperative Banks) or from a Scheduled Foreign Bank as defined in Section 2(e) of RBI Act 1934 read with Second Schedule preferably drawn on and payable & extendable at a designated branch in Bengaluru in the format prescribed at Section 11.

* *In case of Tender Security/EMD issued in the form of Bank Guarantee, the Scheduled Bank issuing the Bank Guarantee should preferably be on "Structure Financial Messaging System (SFMS)" platform. A separate advice of the BG shall preferably be sent by the issuing bank to the Employer's Bank through SFMS.*

The issuing *Bank shall send the SFMS as detailed under to:*

Name: BANGALORE METRO RAIL CORPORATION LTD.,
Name of the Bank: BANK OF INDIA
Branch: CANTONMENT BRANCH, BENGALURU.
Account No.: 840420110000739
RTGS/IFSC: BKID0008404

The Scanned copy of the BG and a copy of "MT760COV (for Bank Guarantee message) /MT767COV (for Bank Guarantee amendment message) Report" sent by the BG issuing Bank, should be uploaded by the Tenderer in the e-Procurement Portal as a part of his Offer during Tender submission. The Tenderers should ensure that both the documents (scanned copy of BG and copy of SFMS message) are uploaded to the e-Procurement portal, failure of which, the Tender will be summarily rejected by the Employer. The Original Bank Guarantee shall compulsorily be submitted at BMRCL office specified within the time and place mentioned in ITT

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clause 16.3. The Tenderer shall note that the Original Bank Guarantee is submitted through speed post / in person and if not received before the scheduled date and time as specified in ITT clause 16, the Tender will be summarily rejected.

The details of the Bank Guarantee, physically submitted should match with the details available of the scanned copy uploaded and the data entered during Tender submission time, failing which, the Tender will be rejected.

In case of non-reconciliation of online EMD (Tender Security) portion through e-Procurement portal in Government of Karnataka Central Pooling Account held at the ICICI Bank, the Tender will get rejected

The Tenderer shall seal and submit the documents (hard copy) at BMRCL office within 5 days from the last date of online Tender submission. Only the Tenders submitted online and the hardcopies will be considered for evaluation

(c) Fixed Deposit Receipt in favour of the Employer, M/s Bangalore Metro Rail Corporation Ltd

13.2 Instruments having fixed validity issued as earnest money deposit for the tender shall be valid for 45 days **beyond** the validity of the tender.

13.3 Any tender not accompanied by an acceptable earnest money deposit and not secured as indicated in Sub-Clauses 13.1 and 13.3 above shall be rejected by the Employer as non-responsive.

13.4 The earnest money deposit of unsuccessful Tenderers will be returned within 30 days of the end of the tender validity period specified in Sub-Clause 12.1.

13.5 The earnest money deposit of the successful Tenderer will be discharged when the Tenderer has signed the Agreement and furnished the required Performance Security.

13.6 The earnest money deposit may be forfeited:

(a) if the Tenderer withdraws the Tender after tender opening during the period of tender validity;

(b) if the Tenderer does not accept the correction of the Tender Price, pursuant to Clause 24;

(c) in the case of a successful Tenderer, if the Tenderer fails within the specified time limit to

(i) sign the Agreement; or

(ii) furnish the required Security deposit

13.7 **Exemption to MSEs:**

(a) Notwithstanding above, Micro and Small Enterprises (MSEs) registered with NSIC under a single point vendor registration scheme / having a valid Udyam Registration Certificate are exempted from payment of Earnest Money Deposit (EMD).

(b) However, the Tenderer who claim these benefits shall submit a valid copy of such Registration Certificate issued by the concerned Authority along with the Tender submittals, failure of which, the Tender is liable for rejection

(c) The Tenderer shall furnish Tender Securing Declaration as per **Additional Document 7,** failing which the Tenders are liable for rejection

14. Format and signing of Tender

14.1 The Tender shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the Tenderer. All pages of the tender where entries or amendments have been made shall be initialed by the person signing the tender

14.2 The Tender shall contain no alterations or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the Tenderer, in which case such corrections shall be initialed by the person signing the Tender.

D. SUBMISSION OF TENDERS

15. Sealing and marking of tenders

15.1 The Tenders shall be submitted online through Karnataka Public Procurement Portal (eProcurement Portal)

16. Deadline for submission of the Tenders

16.1 Tenders must be submitted online through Karnataka Public Procurement Portal (eProcurement Portal) on or before the date and time specified in the eProcurement Portal and in time submission of Tender is the responsibility of the Tenderer.

16.2 The Employer may extend the deadline for submission of tenders by issuing an amendment in accordance with Clause 9, in which case all rights and obligations of the Employer and the Tenderers previously subject to the original deadline will then be subject to the new deadline.

16.3 Original Documents to be submitted in hardcopy:

The Tenderer shall seal and submit the documents (hard copy) at BMRCL office within 5 days from the last date of online Tender submission. Only the Tenders submitted online and the hardcopies will be considered for evaluation. The hardcopies should carry/accompany copy of "acknowledgement from Employer/eProcurement Portal".

The envelope shall bear the following identification:

TENDER NO: ……

ORIGINAL SUBMITTALS OF VOLUME 1 (QUALIFICATION CUM TECHNICAL PACKAGE)

BMRCL Office Address for submission of hardcopy:

To,

Office of the Manager (Traction),
Bangalore Metro Rail Corporation Limited,
Metro Rail Depot, Peenya,
Ravi Kirloskar Hospital Road, Peenya 1st Stage,
Bangalore – 560058, Karnataka, India
Ph No.: 080-25191038

16.4 The Tenderers can submit the hard copies by 'Speed Post' or 'in person' at the above address during 11.00 am to 05.00pm on all working days. In case, 5th day happens to be holiday, then the next working day shall be considered as last day for submission of the hard copy

17. Late Tenders

17.1 In e-Procurement Portal, the Tenderer shall not be able to submit the Tender after the last date and time for submission as the icon for the task in the e-Procurement Portal will be disabled.

18. Modification and Withdrawal of Tenders

18.1 Tenderer may notify and correct or upload any relevant document in the portal till Tender submission date and time as published in the e-Procurement Portal.

18.2 Tenderer may cancel/modify their bids online before the deadline for submission of bids

18.3 No Tender may be modified after the deadline for submission of Tenders.

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18.4 Withdrawal or modification of a Tender between the deadline for submission of Tenders and the expiration of the original period of Tender validity specified in Clause 12.1 above or as extended pursuant to Clause 12.2 may result in the forfeiture of the earnest money deposit pursuant to Clause 13.

18.5 Tenderers may only offer discounts to, or otherwise modify the prices of their Tenders by submitting Tender modifications in accordance with this clause, or included in the original Tender submission.

E. TENDER OPENING AND EVALUATION

19. Opening of Tenders (Volume 1) and evaluation to determine qualified Tenderers

19.1 The Employer will open the Tenders Online through Karnataka Public Procurement Portal (eProcurement Portal)

20. Opening of Tenders (Volume 2) of qualified Tenderers and evaluation

20.1 The Employer will open the Second Cover of Qualified Tenderers only through Karnataka Public Procurement Portal (eProcurement Portal) online.

21. Process to be confidential

21.1 Information relating to the examination, clarification, evaluation, and comparison of Tenders and recommendations for the award of a contract shall not be disclosed to Tenderers or any other persons not officially concerned with such process until the award to the successful Tenderer has been announced. Any effort by a Tenderer to influence the Employer's processing of Tenders or award decisions may result in the rejection of his Tender.

22. Clarification of Tenders

22.1 To assist in the examination, evaluation, and comparison of Tenders, the Employer may, at his discretion, ask any Tenderer for clarification of his Tender, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by mail, but no change in the price or substance of the Tender shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Tenders in accordance with Clause 24.

22.2 Subject to sub-clause 22.1, no Tenderer shall contact the Employer on any matter relating to its Tender from the time of the Tender opening to the time the contract is awarded. If the Tenderer wishes to bring additional information to the notice of the Employer, it should do so in writing.

22.3 Any effort by the Tenderer to influence the Employer in the Employer’s Tender evaluation, Tender comparison or contract award decisions may result in the rejection of the Tenderers’ Tender.

23. Examination of Tenders and determination of responsiveness

23.1 Prior to the detailed evaluation of Tenders, the Employer will determine whether each Tender; (a) has been properly signed; and; (b) is substantially responsive to the requirements of the Tender documents.

23.2 A substantially responsive Tender is one which conforms to all the terms, conditions, and specifications of the Tender documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the Tender documents, the Employer's rights or the Tenderer's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other Tenderers presenting substantially responsive Tenders.

23.3 If a Tender is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

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24. Correction of errors

24.1 Tenders determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:

(a) where there is a discrepancy between the rates in figures and in words, the lower of the two will govern; and

(b) where there is a discrepancy between the unit rate and the line-item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

24.2 The amount stated in the Tender will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the Tenderer, shall be considered as binding upon the Tenderer. If the Tenderer does not accept the corrected amount the Tender will be rejected, and the earnest money deposit may be forfeited in accordance with Sub-Clause 13.6 (b).

25. Evaluation and comparison of Tenders

25.1 The Employer will evaluate and compare only the Tenders determined to be substantially responsive in accordance with Clause 23.

25.2 In evaluating the Tenders, the Employer will determine for each Tender the evaluated Tender Price by adjusting the Tender Price as follows:

(a) making any correction for errors pursuant to Clause 24; and

(b) making appropriate adjustments to reflect discounts or other price modifications offered in accordance with Sub Clause 18.5.

25.3 The Employer reserves the right to accept or reject any variation, deviation, or alternative offer. Variations, deviations, and alternative offers and other factors which are in excess of the requirements of the Tender documents or otherwise result in unsolicited benefits for the Employer shall not be taken into account in Tender evaluation.

25.4 The estimated effect of the price adjustment conditions under Clause 41 of the Conditions of Contract, during the implementation of the Contract, will not be taken into account in tender Evaluation

25.5 If the tender of the successful tenderer is seriously unbalanced in relation to the Employer's estimate of the cost of the work to be performed under the contract, the Employer may require the Tenderer to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, the Employer may require that the amount of the performance security set forth in Clause 29 be increased at the expense of the successful Tenderer to a level sufficient to protect the Employer against financial loss in the event of default of the successful under the contract.

F. AWARD OF CONTRACT

26. Award criteria

26.1 Subject to Clause 27, the Employer will award the Contract to the Tenderer whose Tender has been determined to be substantially responsive to the Tender documents and who has offered the lowest evaluated Tender Price, provided that such Tenderer has been determined to be (a) eligible in accordance with the provisions of Clause 2, and (b) qualified in accordance with the provisions of Clause 3.

27. Employer's right to accept any Tender and to reject any or all Tenders

.

27.1 Notwithstanding Clause 26, the Employer reserves the right to accept or reject any Tender, and to cancel the Tender process and reject all Tenders, at any time prior to the award of Contract, without thereby incurring any liability to the affected Tenderer or Tenderers or any obligation to inform the affected Tenderer or Tenderers of the grounds for the Employer's action.

28. Notification of award and signing of Agreement

28.1 The Tenderer whose Tender has been accepted will be notified of the award by the Employer prior to expiration of the Tender validity period by, e-mail or facsimile confirmed by registered letter. This letter (hereinafter and in the *Conditions of Contract* called the "Letter of Award") will state the sum that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

28.2 The notification of award will constitute the formation of the Contract, subject only to the furnishing of Security deposit in accordance with the provisions of Clause 29.

28.3 The Agreement will incorporate all agreements between the Employer and the successful Tenderer. It will be kept ready for signature of the successful Tenderer in the office of Employer within 30 days following the notification of award along with the Letter of Award. Within 20 days of receipt, the successful Tenderer will sign the Agreement and deliver it to the Employer.

28.4 Upon the furnishing by the successful Tenderer of the Performance Security, the Employer will promptly notify the other Tenderers that their Tenders have been unsuccessful.

29. Security deposit

29.1 Within 20 days of receipt of the Letter of Award, the successful Tenderer shall deliver to the Employer a Security deposit (Performance Security) in any of the forms given below for an amount detailed below for this particular work.

In the first year, the Security Deposit for the value of 5% of the Contract value shall be provided. Thereafter, for the remaining years, the Security Deposit value of 5% of the Contract value of the balance Contract period shall be maintained year-on-year, throughout the contract period of 5 years (Security Deposit value reducing YoY). In case the Performance Security is submitted in the form Bank Guarantee, then the Validity of BG shall be 6 months beyond the respective year completion date.

Note : Security deposit for the 1st Year shall be returned only upon receipt of Security Deposit for the 2nd Year and same pattern shall be followed for the subsequent Years till the End of Contract Period.

- Banker’s cheque/Demand draft,/Pay Order in favour of Bangalore Metro Rail Corporation Ltd payable at Bangalore.
- A bank guarantee in the form given in Section 11;

29.2 If the security deposit is provided by the successful Tenderer in the form of a Bank Guarantee, it shall be issued either by a Nationalized/Scheduled bank.

29.3 The security deposit if furnished in cash or demand draft can, if requested, be converted to interest bearing securities at the cost of the contractor.

29.4 Failure of the successful Tenderer to comply with the requirements of Sub-Clause 29.1 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Earnest money deposit.

30. Advance Payment and Security

30.1 The Employer will not provide any advance payment on the contract price.

.

31. Corrupt or Fraudulent practices

31.1 The GOK requires that the Tenderers/Suppliers/Contractors, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, GOK:

(a) will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

(b) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a GOK contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a GOK contract.

31.2 Furthermore, Tenderers shall be aware of the provision stated in sub-clause 50.2 of the Conditions of Contract.

-x-x-x-

SECTION 3: QUALIFICATION INFORMATION

The information to be filled in by the Tenderer as provided for in Clause 3 of the Instructions to Tenderers. This information will not be incorporated in the Contract.

1.1 Constitution or legal status of Tenderer [Attach copy]

Place of Registration _____

[Attach copy]

Principal place of business _____

1.2 Tenderer details to meet the qualification requirement specified in ITT Clause 3.1

SN	Tenderer Name	The Tenderer shall clearly specify the applicable sub-clause of ITT Clause 3.1, under which the Tenderer claims compliance with Qualification Criteria	Description of the document submitted towards which the Tenderer claims compliance with Qualification Criteria ITT Clause 3.1
1	2	3	4

1.3 Details of works completed to meet the qualification requirement specified in ITT Clause 3.2

SN	Name of the Employer & Description of the work	LOA/ WO No & date	Contact no (Engineer in charge)	Value of Contract	Date of commencement of work	Status (Ongoing / Completed)	Value of works completed
1	2	3	4	5	6	7	8

1.4 Reports on the financial standing of the tenderer, such as profit and loss statements and auditor's reports for the last five years

1.5 Qualification and experience of the key technical and management personnel in permanent employment with the tenderer and those that are proposed to be deployed on this contract, if awarded

1.6 Name, address, and telephone, telex, and fax numbers of the Tenderers' bankers who may provide references if contacted by the Employer.

1.7 Evidence of access to financial resources to meet the qualification requirement specified in ITT Clause 3.3 (b): Cash in hand, Letter of Credit etc. List them below and attach certificate from the Banker in the suggested format as under:

.

BANKER'S CERTIFICATE

This is to certify that M/s. is a reputed company with a good financial standing. If the contract for this work, namely (*name of the work)* is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs. ……to meet the working capital requirements for executing the above contract

Sd/-

Name of the Bank,

Senior Bank Manger

Address…….

-x-x-x-

SECTION 4: FORMS OF TENDER, LETTER OF ACEPTANCE, NOTICE TO PROCEED WITH THE WORK AND AGREEMENT FORM

FORM OF TENDER

(letterhead paper of the Tenderer)

Description of the Works: _____

To

Bangalore Metro Rail Corporation Ltd (O&M Wing)
Baiyappanahalli Depot, Administrative Building,
Near NGEF Signal, Old Madras Road, Baiyappanahalli,
Bangalore- 560038, Karnataka, India

Dear Sir/Madam,

We offer to execute the Works described above in accordance with the Conditions of Contract accompanying this Tender

This Tender and your written acceptance of it shall constitute a binding contract between us. We understand that you are not bound to accept the lowest or any Tender you receive.

We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely “Prevention of Corruption Act 1988”.

We hereby confirm that this Tender complies with the Tender validity and Earnest money deposit required by the Tender documents.

Yours faithfully,

Authorized Signature: _____

Name & Title of Signatory: _____

Name of Tenderer: _____

Address: _____

_____

LETTER OF AWARD OF CONTRACT

(letterhead paper of the Employer)

_____[date]

To:_____

[name and address of the Contractor]

Dear Sirs,

This is to notify you that your Tender dated _____ for execution of the _____ [name of the contract and identification number, as given in the Instructions to Tenderers] for the Contract Price of Rupees (_____) [amount in words and figures], as corrected and modified in accordance with the Instructions to Tenderers is hereby accepted by our Agency.

You are hereby requested to furnish Security deposit in terms of Clause 25.5 of ITT, in the form and amount detailed in Clause 29.1 of ITT within 20 days of the receipt of this Letter of Award and sign the contract, failing which action as stated in Para 29.4 of ITT will be taken.

Yours faithfully,

Authorized Signature

Name and Title of Signatory Name of Agency

ISSUE OF NOTICE TO PROCEED WITH THE WORK

(letterhead of the Employer)

To ———— (date)

———————————— (name and address of the Contractor)

_____

_____

Dear Sirs,

Pursuant to your furnishing the requisite security deposit as stipulated in ITT Clause 29.1 and signing of the contract agreement for the works of ————————a Tender Price of Rs.————————, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

Signature, name and title of signatory authorized to sign on behalf of Employer

AGREEMENT FORM

This agreement, made the _____day of_____20_____

Between_____[name and address of Employer] _____

(hereinafter called "the Employer") of the one part and _____[name and address of contractor]_____ (hereinafter called "the Contractor") of the other part.

Whereas the Employer is desirous that the Contractor execute _____[name and identification number of Contract] _____(hereinafter called "the Works") and the Employer has accepted the Tender by the Contractor for the execution and completion of such Works at a contract price of Rupees..... [amount in words and figures]

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the Contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
4. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz:
   - i) Letter of Award;
   - ii) Notice to proceed with the works;
   - iii) Contractor's Tender;
   - iv) Contract Data;
   - v) Conditions of contract (including Special Conditions of Contract);
   - vi) Specifications and Scope of Work;
   - vii) Drawings;
   - viii) Bill of Quantities / Price Schedule; and
   - ix) Any other document listed in the Contract Data as forming part of the contract.

In witness whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

The Common Seal of_____
was hereunto affixed in the presence of: _____
Signed, Sealed and Delivered by the said _____

in the presence of:
Binding Signature of Employer _____
Binding Signature of Contractor _____

-x-x-x-

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A. GENERAL

1. Definitions

1.1 Terms which are defined in the Contract Data are not also defined in the Conditions of Contract but keep their defined meanings. Bold letters are used to identify defined terms.

a) **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Tender.

b) **Compensation events are** those defined in Clause 38 hereunder.

c) The **Completion Date** is the date of completion of the Works as certified by the Employer in accordance with Sub Clause 46.1.

d) The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in Clause 2.2 below.

e) The **Contract Data** defines the documents and other information which comprise the Contract.

f) The **Contractor** is a person or corporate body whose Tender to carry out the Works has been accepted by the Employer.

g) The **Contractor's Tender** is the completed Tender document submitted by the Contractor to the Employer.

h) The **Contract price** is the price stated in the Letter of Award and thereafter as adjusted in accordance with the provisions of the Contract.

i) **Days** are calendar days; **months** are calendar months.

j) A **Defect** is any part of the Works not completed in accordance with the Contract.

k) The **Defects liability period** is the period named in the Contract Data and calculated from the Completion Date.

l) The **Employer** is the party who will employ the Contractor to carry out the Works.

m) Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

n) The **Initial Contract price** is the Contract Price listed in the Employer's Letter of Award.

o) The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Employer by issuing an extension of time.

p) **Materials** are all supplies, including consumables, used by the contractor for incorporation in the Works.

q) **Plant** is any integral part of the Works which is to have a mechanical, electrical, electronic or chemical or biological function.

r) The **Site** is the area defined as such in the Contract Data.

s) **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Employer.

t) The **Start Date** is given in the Contract Data. It is the date when the Contractor shall commence execution of the works. It does not necessarily coincide with any of the Site

.

Possession Dates.

u) A **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract which includes work on the Site.

v) A **Variation** is an instruction given by the Employer which varies the Works.

w) The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the Contract Data.

2. Interpretation

2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Employer will provide instructions clarifying queries about the Conditions of Contract.

2.2 The documents forming the Contract shall be interpreted in the following order of priority:

(1) Agreement

(2) Letter of Award, notice to proceed with the works

(3) Contractor's Tender

(4) Contract Data

(5) Conditions of Contract

(6) Specifications and Scope of Work

(7) Drawings

(8) Bill of quantities / Price Schedule and

(9) any other document listed in the Contract Data as forming part of the Contract.

3. Law governing contract

3.1 The law governing the Contract is the Laws of India supplanted by the Karnataka Local Acts.

4. Employer's decisions

4.1 Except where otherwise specifically stated, the Employer will decide contractual matters between the Employer and the Contractor.

5. Delegation

5.1 The Employer may delegate any of his duties and responsibilities to other people after notifying the Contractor and may cancel any delegation after notifying the Contractor.

6. Communications

6.1 Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act).

7. Subcontracting

7.1 The Contractor may subcontract with the approval of the Employer but may not assign the Contract without the approval of the Employer in writing. Subcontracting does not alter the Contractor's obligations.

8. Other Contractors

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer.

9. Personnel

9.1 The Contractor shall employ the technical personnel (of number and qualifications) for the execution of the work. The technical staff so employed shall be available at site as may be stipulated by the Employer.

9.2 If the Employer asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

10. Employer's and Contractor's risks

10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Employer's risks

11.1 The Employer is responsible for the excepted risks which are:

(a) rebellion, riot commotion or disorder unless solely restricted to employees of the Contractor or his Sub-Contractors arising from the conduct of the Works; or

(b) a cause due solely to the design of the Works, other than the Contractor's design; or

(c) any operation of the forces of nature (in so far as it occurs on the Site) which an experienced contractor:

(i) could not have reasonably foreseen; or

(ii) could reasonably have foreseen, but against which he could not reasonably have taken at least one of the following measures;

(A) prevent loss or damage to physical property from occurring by taking appropriate measures or

(B) insure against such loss or damage

12. Contractor's risks

12.1 All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks are the responsibility of the Contractor.

13. Insurance:

13.1 Insurance to be taken for the Contract period by the Contractor

The Contractor shall at its expense take out and maintain in effect, or cause to be taken out and maintained in effect, during the performance of the Contract, the insurances set forth below in the sums and with the deductibles and other conditions specified. The identity of the Insurers and the form of the policies shall be subject to the approval of the Employer, who shall not unreasonably withhold such approval.

I. Third Party Liability Insurance:

Covering bodily injury or death suffered by third parties (excluding the Employer's Personnel) and loss of or damage to property (excluding the Employer's property) occurring in connection with and during the Contract period

Sum Insured Amount (in currency(ies))	Deductible limits (in currency(ies))	Parties insured (Names)	From (Place)	To (Place)

Such Insurance Policy shall be taken out by the Contractor at its expense and maintained in effect, or cause to be taken out and maintained in effect, during the performance of the Contract. Indemnity limit of such Insurance shall be taken out for 10% of the Contract value (aggregate contract value for the Contract Period). The Insurance so taken and maintained can be on year-to-year basis for the Contract period or for the entire period of the AMC Contract, at the discretion of the Contractor.

II. Insurance for contractor's personnel - Employees Compensation Insurance Policy

The Contractor shall effect and maintain insurance against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractors personnel.

The Insurance shall cover the Employer and the Engineer against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the contractor or any other of the Contractor's personnel, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Employer or of the Employer's Personnel.

The Insurance shall be maintained in full force and effect during the whole time that these Personnel are assisting in the execution of the works. For a Sub-contractor's Employees, the Insurance may be effected by such Sub-Contractor but the Contractor shall be responsible for compliance with this clause.

The policy shall be:

i) In the joint names of the Employer (Principal) and Contractor;

ii) For Total Wages of Workers;

iii) Cover all the workmen of the Contractor;

iv) In force till the completion of the project/contract;

v) Include cover for medical expenses incurred on account of an accident or injury sustained by the workmen in the course of and during the employment;

vi) Include cover for Liability as per Fatal Accidents Act and Common Law.

The Sub-Contractor while talking the Insurance shall include Employer (Principal) and the Contractor's name and cover for the total wages of workers engaged by them. Such Insurance shall include cover for medical expenses incurred on account of an accident or injury and shall also include cover for Liability as per Fatal Accidents Act and Common Law. The Contractor shall be responsible in collecting the Insurance Policy from the Sub-Contractor and submit the same to the Employer.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Employer for his approval before the Start Date. All such insurance shall provide for compensation to be payable to rectify the loss or damage incurred. All payments received from insurers relating to loss or damage shall be held jointly by the Parties and used for the repair of the loss or damage or as compensation for loss or damage that is not to be repaired.

13.3 Alterations to the terms of an insurance shall not be made without the approval of the Employer.

13.4 Both Parties shall comply with any conditions of the insurance policies.

14. Site Investigation Reports:

.

14.1 The Contractor, in preparing the tender, shall rely on any site investigation reports referred to in the Contract data, supplemented by any information available to the Tenderer.

15. Queries about the Contract Data

15.1 The Employer will clarify queries on the Contract Data.

16. Contractor to carry out the Works

16.1 The Contractor shall carry out the Works in accordance with the Specification and Scope of Work.

17. The Works to be completed by the Intended Completion Date

17.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the program submitted by the Contractor, as updated with the approval of the Employer, and complete them by the Intended Completion Date.

18. Approval by the Employer:

18.1 The Contractor shall obtain Approval of the Employer for carrying out the works as per contract.

19. Safety

19.1 The Contractor shall be responsible for the safety of all activities on the Site.

20. Discoveries

20.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The Contractor is to notify the Employer of such discoveries and carry out the Employer's instructions for dealing with them.

21. Possession of the Site

21.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the Contract Data the Employer is deemed to have delayed the start of the relevant activities and this will be Compensation Event.

22. Access to the Site

22.1 The Contractor shall allow the Employer and any person authorized by the Employer access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured / fabricated / assembled for the works.

23. Instructions

23.1 The Contractor shall carry out all instructions of the Employer which comply with the applicable laws where the Site is located.

24. Procedure for resolution of Disputes

24.1 If the Contractor is not satisfied with the decision taken by the Employer, the dispute shall be referred by either party to Arbitration within 30 days of the notification of the Employer’s decision.

24.2 If neither party refers the dispute to Arbitration within the above 30 days, the Employer’s decision will be final and binding.

24.3 The Arbitration shall be conducted in accordance with the arbitration procedure stated in the Special Conditions of Contract.

B. TIME CONTROL

25. Program

25.1 Within the time stated in the Contract Data the Contractor shall submit to the Employer for approval a Program showing the general methods, arrangements, order, and timing for all the activities in

.

the Works.

25.2 The Employer's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Employer again at any time. A revised Program is to show the effect of Variations and Compensation Events.

26. Extension of the Intended Completion Date

26.1 The Employer shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date.

26.2 The Employer shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Employer for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information.

27. Delays ordered by the Employer

27.1 The Employer may instruct the Contractor to delay the start or progress of any activity within the Works.

28. Management meetings

28.1 The Employer may require the Contractor to attend a management meeting. The business of a management meeting shall be to review the progress achieved and the plans for remaining work.

28.2 The responsibility of the parties for actions to be taken is to be decided by the Employer either at the management meeting or after the management meeting and stated in writing to be distributed to all who attended the meeting.

C. QUALITY CONTROL

29. Identifying defects

29.1 The Employer shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Employer may instruct the Contractor to search for a Defect and to uncover and test any work that the Employer considers may have a Defect

30. Tests

30.1 If the Employer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect the test shall be a Compensation Event.

31. Correction of defects

31.1 The Employer shall give notice to the Contractor of any Defects before the end of the contract Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

31.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Employer’s notice.

32. Uncorrected defects

32.1 If the Contractor has not corrected a Defect within the time specified in the Employer’s notice, the Employer will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

D. COST CONTROL

33. Bill of Quantities (BOQ)

.

33.1 The BOQ/Price Schedule shall contain items for the work to be done by the Contractor.

33.2 The BOQ/Price Schedule is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the BOQ for each item.

34. Variations

34.1 The Employer shall have power to order the Contractor to do any or all of the following as considered necessary or advisable during the progress of the work by him

(a) Increase or decrease of any item of work included in the Bill of Quantities (BOQ);

(b) Omit any item of work;

(c) Change the character or quality or kind of any item of work;

(d) Change the levels, lines, positions and dimensions of any part of the work;

(e) Execute additional items of work of any kind necessary for the completion of the works; and

(f) Change in any specified sequence, methods or timing of construction of any part of the work.

34.2 The Contractor shall be bound to carry out the work in accordance with any instructions in this connection, which may be given to him in writing by the Employer and such alteration shall not vitiate or invalidate the contract.

34.3 Variations shall not be made by the Contractor without an order in writing by the Employer, provided that no order in writing shall be required for increase or decrease in the quantity of an item appearing in the BOQ so long as the work executed conforms to BMRCL approval the approved drawings.

34.4 The Contractor shall promptly request in writing to the Employer to confirm verbal orders and the officer issuing oral instructions shall confirm it in writing within 30 days, failing which the work shall be carried out as though there is no variation. In case variation is approved it shall be accompanied by BOQ, failing which the contractor shall be responsible for deviation if any.

35. Payments for Variations

35.1 Payment for increase in the quantities of an item in the BOQ up to 25% of that provided in the Bill of Quantities shall be made at the rates quoted by the Contractor.

35.2 For quantities in excess of 125% of the tendered quantity of an item as given in the BOQ, the Contractor shall be paid at the rate entered in or derived from in the Schedule of Rates (applicable for the area of the work and current at the time of award of contract) plus or minus the overall percentage of the original tendered rates over the current Schedule of Rates prevalent at the time of award of contract.

35.3 If there is no rate for the additional, substituted or altered item of the work in the BOQ, efforts would be made to derive the rates from those given in the BOQ or the Schedule of Rates (applicable for the area of the work and current at the time of award of contract) and if found feasible the payment would be made at the derived rate for the item plus or minus the overall percentage of the original tendered rates over the current Schedule of Rates prevalent at the time of award of contract

35.4 If the rates for additional, substituted or altered item of work cannot be determined either as at 35.1 or 35.2 or 35.3 above, the Contractor shall be requested to submit his quotation for the items supported by analysis of the rate or rates claimed, within 7 days.

35.5 If the Contractor's quotation is determined unreasonable, the Employer may order the Variation and make a change to the Contract Price which shall be based on Employer’s own forecast of the effects of the Variation on the Contractor's costs.

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35.6 If the Employer decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.

35.7 Under no circumstances the Contractor shall suspend the work on the plea of non-settlement of rates for items falling under this Clause.

36. Submission of bills for payment

36.1 The Contractor shall submit to the Employer monthly bills of the value of the work completed less the cumulative amount paid previously.

36.2 The Employer shall check the Contractor's bill and determine the value of the work executed which shall comprise of (i) value of the quantities of the items in the BOQ completed and (ii) valuation of Variations and Compensation Events.

36.3 The Employer may exclude any item paid in a previous bill or reduce the proportion of any item previously paid in the light of later information.

37. Payments

37.1 Payments shall be adjusted for deductions for advance payments, other recoveries in terms of the contract and taxes, at source, as applicable under the law. The Employer shall as far as Possible pay the Contractor the within 60 days of submission of bill. The Contractor shall be liable to pay liquidated damages for shortfall in progress.

For Progress beyond the agreed programme, payment is subject to availability of the grants.

37.2 Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

38. Compensation events

38.1 The following are Compensation events unless they are caused by the Contractor:

(a) The Employer does not give access to a part of the Site by the Site Possession Date stated in the Contract Data.

(b) The Employer orders a delay or does not issue drawings, specifications or instructions required for execution of works on time.

(c) The Employer instructs the Contractor to uncover or to carry out additional tests upon work which is then found to have no Defects.

(d) The Employer gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.

(e) The effect on the Contractor of any of the Employer’s Risks.

(f) The Employer unreasonably delays issuing a Certificate of Completion.

(g) Other Compensation Events listed in the Contract Data or mentioned in the Contract.

38.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date is extended. The Employer shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

38.3 As soon as information demonstrating the effect of each Compensation event upon the Contractor's forecast cost has been provided by the Contractor, it is to be assessed by the Employer and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Employer shall adjust the Contract Price based on Employer’s own

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forecast. The Employer will assume that the Contractor will react competently and promptly to the event.

38.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having cooperated with the Employer.

39. Tax

39.1 The rates quoted by the Contractor shall be deemed to be inclusive of the sales and other taxes except GST that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law.

40. Price Adjustment

Not Used

41. Liquidated damages

41.1 The Contractor shall pay liquidated damages to the Employer at the rate stated in the Contract Data for each week that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the Contract Data. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages does not affect the Contractor's liabilities.

41.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Employer shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment of bill.

42. Advance Payments

42.1 No Advance Payment shall be made to the Contractor

43. Securities:

43.1 The Security deposit (including additional security for unbalanced tenders) shall be provided to the Employer no later than the date specified in the Letter of Award and shall be issued in an amount and form and type of instrument acceptable to the Employer. The Security deposit shall be valid until a date 60 days from the date of expiry of contract.

44. Cost of Repairs

44.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing The Contract

45. Completion

45.1 The Contractor shall request the Employer to issue a Certificate of Completion of the Works and the Employer will do so upon deciding that the Work is completed.

46. Taking over

46.1 The Employer shall take over the Site and the Works on the date of Expiry of Contract.

47. Final account

47.1 The Contractor shall supply to the Employer a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Contract. The Employer

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shall issue a Certificate and certify any final payment that is due to the Contractor within 90 days of receiving the Contractor's account if it is correct and complete. If it is not, the Employer shall issue within 90 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Employer shall decide on the amount payable to the Contractor and make payment within 60 days of receiving the Contractor's revised account.

48. As built drawings and /or Operating and Maintenance Manuals

Not used

49. Termination

49.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

49.2 Fundamental breaches of Contract include, but shall not be limited to the following:

(a) the Contractor stops work for 45 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Employer;

(b) The Contractor becomes bankrupt or goes into liquidation other than for a reconstruction or amalgamation;

(c) the Employer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Employer;

(d) the Contractor does not maintain a security which is required;

(e) the Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data; and

(f) if the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in the executing the Contract.

(g) For the purpose of this paragraph: "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish Tender prices at artificial non- competitive levels and to deprive the Borrower of the benefits of free and open competition."

49.3 When either party to the Contract gives notice of a breach of contract to the Employer for a cause other than those listed under Sub Clause 49.2 above, the Employer shall decide whether the breach is fundamental or not.

49.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

49.5 If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure and leave the Site as soon as reasonably possible.

50. Payment upon Termination

50.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Employer shall prepare bill for the value of the work done less advance payments received up to the date of the bill, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed as indicated in the Contract Data. Additional Liquidated Damages shall not apply. If

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the total amount due to the Employer exceeds any payment due to the Contractor the difference shall be a debt payable to the Employer.

50.2 If the Contract is terminated at the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Employer shall prepare bill for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract, and less taxes due to be deducted at source as per applicable law and make payment accordingly.

51. Property

51.1 All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of a Contractor's default.

52. Release from performance

52.1 If the Contract is frustrated by any event entirely outside the control of either the Employer or the Contractor the Employer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.

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1. Labour

1.1 The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

1.2 The Contractor shall, if required by the Employer, deliver to the Employer a return in detail, in such form and at such intervals as the Employer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Employer may require.

2. Compliance with labour regulations

2.1 During continuance of the contract, the Contractor and his sub-contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, Employer shall have the right to deduct any money due to the Contractor including his amount of security deposit. The Employer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

2.2 The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

3. Protection of Environment

3.1 The contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation. During continuance of the contract, the contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and rules made there under, regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority.

4. Arbitration

4.1 The procedure for arbitration shall be as follows:

(a) In case of dispute or difference arising between the Employer and the Contractor relating to any matter arising out of or connected with this agreement it shall be settled in accordance with the Arbitration and Conciliation Act 1996. The disputes or differences shall be referred to a Sole Arbitrator. The Sole Arbitrator shall be appointed by agreement between the parties; failing such agreement, by the Appointing Authority (any one of the Organizations as per list enclosed in Annexure)

(b) Arbitration proceedings shall be held at Bangalore, Karnataka, India

(c) The cost and expenses of arbitration proceedings will be paid as determined by the Arbitrator. However, the expenses incurred by each party in connection with the preparation, presentation, etc., shall be borne by each party itself.

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4.2 Performance under the contract shall continue during the arbitration proceedings and payments due the Contractor by the Employer shall not be withheld, unless they are the subject matter of the arbitration proceedings.

4.3 List of organizations who are considered as appointing authority for appointment of arbitrators

(1) Indian Council of Arbitration, New Delhi;

(2) International Centre for Alternative Disputes Resolution (India);

(3) Indian Roads Congress;

(4) Indian Building Congress;

(5) Indian Institute of Bridge Engineers;

(6) Indian Institute of Public Health Engineers;

(7) Institute of Water Work

5. General

If any provision in these Special Conditions is at variance with that of the aforesaid documents, the later shall be deemed to take precedence there over.

6. Categorization of AMC works

The Population of the 33KV AC Equipment and Accessories covered under the contract is tabulated below

SN	Description of the Equipment	UOM	Qty	
			R5	R6 (Elevated Stations)
1	33 KV Vacuum Circuit Breaker	Nos	161	68
2	Bus PT Panels	Nos	36	14
3	415 V AC Distribution Board	Nos	20	08
4	110 V DC Distribution Board	Nos	20	08
5	33 KV /415 V Auxiliary Transformer including Bus Duct	Set	36	12
6	33KV/585V/585V Traction Transformer including Bus Duct	Nos	28	14
7	160AH , 110 V DC Battery Bank	Nos	2	1
8	182AH , 110 V DC Battery Bank	Nos	5	1
9	300AH , 110 V DC Battery Bank	Nos	11	5
10	695AH, 110 V DC Battery Bank	Nos	4	2

The proposed AMC contract is categorized into Three Schedules namely Schedule-A1, Schedule-A2 and Schedule-B. The details are as under:

6.1 Schedule – A1

The Scope of Work under this Schedule is applicable for the Equipment / Stations which are under Warranty / DLP period. The Scope Covers Quarterly, Half Yearly and Yearly Scheduled

Maintenance Activities as per the approved checklist including supply of recommended consumables and First Level of Response in the event of Traction Power Supply Failures like Isolation of faulty circuits, resetting of Relays, Visual Inspection of the equipment for identifying the faulty components.

The brief Scope of Work is detailed hereunder:

(a) Preventive Maintenance of 33KV AC Equipment and accessories installed in RSS/ASS/TSS stations and depot TSS for entire contract period.

(b) The frequency of Preventive Maintenance for various equipment is as under

i. Quarterly

ii. Half Yearly

iii. Yearly

iv. Bi Yearly

(c) Equipment wise Preventive Maintenance Activities & Schedules are detailed in Proforma Checklists.

(d) As the equipment will be under DLP, the replacement of the defective items will be in the scope of EPC contractor.

First Level of Response in the event of Traction Power Supply Failures like Isolation of faulty circuits, resetting of Relays, Visual Inspection of the equipment for identifying the faulty components is to be carried out any time during 24hrs.X 365 days inclusive of all Sunday's and Holidays. The Contractor shall strictly adhere to the Response time and target time during Breakdowns as per Special Conditions of the Contract

6.2 **Schedule – A2**

The Scope of Work under this Schedule is applicable for the Equipment / Stations which are Out of DLP period. The Scope Covers Preventive Maintenance and any number of Corrective / Breakdown Maintenance Activities for a period of 5 years including supply of recommended consumables & replacement of minor spares as listed under this Schedule. The brief Scope of Work is detailed hereunder:

a. Preventive Maintenance & Breakdown Maintenance of 33KV AC Equipment and accessories installed in RSS/ASS/TSS stations for entire contract period.

b. The Corrective/ Breakdown Maintenance is to be carried out any time during 24hrs. X 365 days inclusive of all Sunday's and Holidays. The Contractor shall strictly adhere to the Response time and target time during Breakdowns as per Special Conditions of the Contract.

c. The frequency of Preventive Maintenance for various equipment is as under

i. Quarterly

ii. Half Yearly

iii. Yearly

iv. Bi-Yearly

d. Equipment wise Preventive Maintenance Activities & Schedules are detailed in Proforma Checklists.

e. Replacement of damaged / worn-out items listed below.

i. All sizes & types of fasteners (Screw, nut, bolt & washer).

ii. Cable glands.

iii. Panel Hole sealing.

iv. Panel Door Gaskets of equipment.

v. Indication Lamps of all colors and all voltage rating.

vi. Inside Panel Illumination lamps & Holders of all wattage.

vii. Rotary Switch (ON-OFF) (Non-Lockable type)

viii. Switch and socket of all types

ix. Door Hinges

x. Acrylic Sheets of all sizes

xi. Door Limit Switches of all types

xii. All types of Fuses with Base (Except 33 kV PT Fuse)

xiii. ACDB DCDB Door Locks

f. **Attending to Breakdown Calls:** Attending to any number of Breakdown Calls. This includes all types of major and minor failures any time during 24hrs. X 365 days inclusive of all Sundays and Holidays.

6.3 **Schedule-B**

a. The Scope of Work under this Schedule is applicable for the Equipment / Stations which are Out of DLP period. Schedule – B of the contract covers Mandatorily Supply and replacement on Need Basis of the items which are anticipated to fail & which are failed and noticed during Preventive / Breakdown Maintenance.

b. The items detailed under Schedule – B shall be handed over to BMRCL within 12 months from the date of Award of Contract. The Contractor shall take approval of BMRCL for Specification of Schedule-B items before supply of the same

c. The replacement of Schedule-B items shall be carried out with prior approval of BMRCL when:

i. Any Replacement of Schedule-B items will be based on Joint Inspection by Contractor Authorized representative and BMRCL Engineer-in-charge

ii. The item has crossed its tolerance limit and become necessary to replace, which are noticed during scheduled maintenance works.

iii. The Item has damaged, and to make the system operational.

d. The Contractor shall supply the items of the same make installed in the existing equipment. Replacement of all the spares / components shall be of the same make, type and model in the existing equipment. If the make and model not available in the market same shall be replaced by an equivalent make, after obtaining approval/ clearance from BMRCL.

e. The Contractor shall, at no additional cost, replace all Schedule-B items as and when required, regardless of the quantities specified in Schedule-B.

f. In addition, apart from the items listed under Schedule-B.

i. Replacement of defective Battery Cells is in the Scope of the Contractor at no additional Cost.

ii. Battery Cells will be provided by BMRCL. Transportation of Battery Cells is in the Scope of the Contractor.

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g. Payment shall be released to contractor if the reason for failure is not attributable to the contractor. If the Failure is due to negligence in works, non-performance of the AMC, the cost of replacement shall be borne by the contractor.

h. The contractor shall submit the root cause of the failure and action taken to avoid recurrence soon after rectification.

6.4 Schedule – C

The Need Based Activities indicating BMRCL Scope and Bidder's Scope are detailed below:

SN	Description	Scope of Work
1	Replacement of Dry Type Transformer of ratings 2850 kVA / 2000 kVA / 500 KVA	BMRCL Scope: • Transformers and its spares will be provided by M/s BMRCL Bidder's Scope: • Shifting of Transformer and its Accessories to the station from BMRCL Depot/stores. • Dismantling of faulty transformer. • Erection, Testing and Commissioning of new/spare transformer. • Tests to be carried out: a) Insulation resistance Measurement. b) Winding Resistance Measurement. c) Magnetic balance Test d) Ratio Test and any test if found necessary. • Shifting of Faulty transformer and its Accessories to the BMRCL Depot/Stores using suitable cranes.
2	Replacement of 33 kV Vacuum Circuit Breaker (VCB)	BMRCL Scope: • 33KV VCB will be provided by M/s BMRCL Bidder's Scope: • Shifting of VCB and its Accessories to the station from BMRCL Depot/stores. • Dismantling of VCB. • Erection, Testing and Commissioning of new/spare VCB • Tests to be carried out: a) Insulation resistance Measurement. b) Contact Resistance Measurement. c) CB Timing Test and any test if found necessary. • Shifting of Faulty VCB and its Accessories to the BMRCL Depot/Stores suitable cranes.
3	Health Assessment / Testing of 33 KV Cables	Bidder's Scope: Following Tests to be carried out and Test Reports to be submitted • Partial Discharge Measurement Test using Damped AC Source (Test Equipment to be used Megger BM 5200 or

SN	Description	Scope of Work
		Megger S15010 or Sonel 15k or Equivalent). • Capacitance and Tan-delta (Dissipation Factor) Measurement using Very Low Frequency (VLF) Source (Megger TDS NT or Siba kmt OWTS M60 or Equivalent). • Dielectric Withstand Test using Very Low Frequency Source Megger VLF sinus 62 or HVB -10 or Equivalent). • Sheath Integrity Test (Test Equipment to be used Megger make or Equivalent).
4	Supply and Replacement of Battery Bank	Bidder's Scope: • Battery Bank and its Accessories to be supplied to the Station. • Erection, Testing and Commissioning of Battery Bank. • Load / Discharge Test to be carried out as per instructions of BMRCL. • Dismantling of faulty Battery Bank. • Transportation of Removed Battery Bank/Cells and its accessories to BMRCL Stores/Depot/Stations.
5	Supply and Installation of EPDM Module	Bidder's Scope: • Suitable for 1R X [3 X (1C X 240)] mm^2 33 kV FRLS Cu Cable – Cutout Size 255 mm X 300 mm. • Suitable for 8R X (1C X 300 sq. mm) 750 V DC Cu Cables – Cutout Size 255 mm x 400 mm. • Suitable for AAAC (120 sq mm), OFC & Control Cables – Cutout Size 250 mm X 300 mm.
6	Rectification of failed 33 kV cable	Bidder's Scope: The Contractor will be notified to take up the rectification work in the event of 33 KV cable failures duly indicating the section where cable failure has occurred. Following works are considered under this scope. • Pin Point the Fault Location using Pin Point Locator if required. • Removing the failed portion of cable and re-joining with 33 KV Cable Jointing Kit. However additional cable required for augmenting the removed portion shall be provided by BMRCL. • Conducting IR & HV test after cable jointing. Note : Supply of Cable Joint Kit / Termination is in the Scope of Contractor.

6.5 Transportation of items from BMRCL Depots/Stores to the Work Locations during Schedule B / C works and Transportation of Removed items to BMRCL Depots / Stores / Station is in the Scope of the Contractor.

6.6 Any Supply and / or Replacement of item not indicated under Schedule A / B / C is under Scope of BMRCL.

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7. Timings for maintenance activities

7.1 Maintenance work of 33KV AC equipment and Accessories where redundancy is available can be carried out in off peak revenue hours between 11:00 hrs. to 16:00 hrs. or in non-revenue hours. This depends on Operational requirement. Decision of BMRCL in this regard is final.

7.2 Maintenance of all 33KV AC Equipment & Accessories, which are in service in all terminal stations of each corridor shall be carried out in non-revenue hours only.

7.3 However, Emergency breakdown activities may be carried out any time during the day/ night in consultation with BMRCL.

7.4 Contractor shall ensure that in no case maintenance activities affect the Train Operations.

7.5 BMRCL reserve the right for changing the maintenance hours due to operational requirement.

8. Deployment of staff

8.1 The contractor shall engage and deploy well trained and competent technical personnel to ensure regular preventive maintenance as well as the corrective / breakdown maintenance as per the requirement of the contract to ensure trouble free service throughout the Contract Period.

8.2 The maintenance team of the Contractor shall inform the Employer's representative and shall start the work only after obtaining permission from the concerned BMRCL staff / authorized representative.

8.3 The Tenderer should possess required valid electrical license.

9. Man power requirement

9.1 Requirement of Minimum Man power to be engaged for carrying out Preventive & Breakdown maintenance are detailed here under:

SN	Designation	Qty
1	Manager	1
3	Senior Engineer	1
4	Junior Engineer	3
5	Technician (Electrician/ Fitter)	8
6	Total	**13**

9.2 The above listed manpower is minimum requirement who are engaged in the AMC contract. The contractor may engage additional manpower at his discretion.

9.3 The contractor shall ensure deployment of manpower for attending any breakdown / corrective activity 24/7, 365 days as per response time stipulated in Technical Specification.

9.4 The Contractor may make his own assessment based on work load and deploy accordingly in shifts / General Duties.

9.5 Manpower engaged for the role of Manager, Senior Engineer and Junior Engineer shall be under Bidder's Payroll, whereas Technicians may be engaged through 3rd party organization/ firms.

9.6 The Contractor shall ensure that all the staff cited above shall maintain Smart phones with data pack and shall keep the phone active for attending to any call

9.7 Eligibility Criteria and roles and responsibilities for Managers, Senior Engineers, Junior Engineers

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and Technicians are as below:

SN	Name of the Post	Qualification	Responsibility
1	Manager	Candidate must possess Degree in Electrical Engineering with minimum 10 years of experience in power supply installation with voltage level 11 kV & above. Minimum 02 out of 10 years of experience in operation/ maintenance/ commissioning of 33 kV and above equipment	1. Shall directly report and Co-ordinate with BMRCL representative. 2. Scheduling of maintenance. 3. Preparation of shift roster. 4. Inspection and Monitoring of maintenance activity. 5. Preparation of emergency Preparedness plan/chart/kit for all failure cases. 6. Preparation of failure & analysis reports 7. Stores management. 8. Arrange required training as per Technical Specifications. 9. Conducting monthly review meetings 10. Preparation of self-assessed KPI & Processing of bills. 11. Procurement activities. 12. Verification of Record books and submission of maintenance activities carried out.
2	Senior Engineer	Candidate must possess Degree in Electrical Engineering with minimum 05 years of experience in power supply installation, testing and commissioning with voltage level 11 kV & above. Minimum 02 out of 05 years of experience in Operation /Maintenance/Commissioning of 33 kV and above equipment.	1. Shall report to Manager. 2. Undertaking maintenance activity as per schedule. 3. Safety awareness to the team before maintenance. 4. First aid in case of injury to team 5. Record keeping. 6. Online monitoring of scheduled / breakdown activities. 7. Forecasting the consumable/spares requirements to stores department. 8. Tools maintenance. 9. Team management. 10. Availing and closing permits (PTW).
3	Junior Engineer	Candidate must possess Diploma in Electrical Engineering with minimum 3 years of experience in power supply installation,	1. Shall report to Senior Engineer / Manager. 2. Undertaking maintenance activity as per schedule. 3. Safety awareness to the team before

SN	Name of the Post	Qualification	Responsibility
		testing and commissioning of 11 kV and above.	maintenance. 4. First aid in case of injury to team. 5. Record keeping. 6. Online monitoring of scheduled / breakdown activities. 7. Forecasting the consumable/spares requirements to stores department. 8. Tools maintenance. 9. Team management. 10. Availing and closing permits (PTW).
4	Technician (Electrical/ Fitter)	Candidate must possess ITI in Electrician / Fitter similar trade with minimum 02 year of experience in power supply installation, testing and commissioning.	1. Shall report to junior engineer. 2. Carrying out all activities instructed by JE & Manager or BMRCL staff / officers. 3. Ensuring self-safety.

9.8 The Contractor shall submit Curriculum Vitae of the personnel proposed to be deployed to BMRCL for approval. Each CV shall have the current photographs of the person and shall be signed by the person. On top of every CV, the proposed role is also to be indicated. Each CV shall contain the following information but not limited to: -

(i) Name in full

(ii) Father's name

(iii) Date of Birth

(iv) Role for which CV is presented

(v) Present Address

(vi) Permanent Address

(vii) Educational Qualification

(viii) Experience in relevant field of activity

(ix) Whether any antecedents of Police cases (Police verification certificate to be enclosed).

10. Safety of workmen

10.1 The Maintenance Staff shall wear Personal Protective Equipment during preventive / breakdown maintenance without fail.

10.2 BMRCL shall in no way be responsible for any damage or injury to contractor's man power or their property during the period of maintenance / service and observe all safety precautions.

10.3 BMRCL shall not reimburse any payment towards medical expenses for contactor staff, in case of accident/ incident takes place in BMRCL premises.

10.4 Contractor shall train the deployed maintenance staff for safety rules during work regularly and before induction into the teams.

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Fire Precautions:

10.5 The Contractor, his agents, representative, workmen etc., shall strictly observe the orders pertaining to fire precautions prevailing within the restricted area.

10.6 Motor transport vehicles, if any allowed by the Engineer to enter the restricted area, must be fitted with serviceable fire extinguishers.

11. Maintenance records

11.1 Contractor will have to maintain proper records of all Maintenance activities. The Contractor shall submit weekly, monthly, quarterly, half yearly & yearly plan for the forthcoming maintenance well in advance to the Employer.

11.2 Every fault noticed/ reported by the Employer shall be entered in the log book / Mobile Application together with the action taken. The fault log book / Mobile Application will be maintained as part of the permanent quality assurance record for the equipment and shall be subject to regular inspection by the Employer.

11.3 The Preventive and breakdown Maintenance (if any) reports shall be submitted to the Employer on a quarterly basis.

11.4 The Contractor shall also conduct failure investigations and submit a report to Employer along with Action Plan for avoiding repetition of such failures.

11.5 The Contractor shall develop a suitable mechanism for managing day-to-day maintenance activities. This shall include Maintenance Planner, Scheduling, Equipment History, Failure History etc.

12. Safety audit

12.1 The Contractor shall conduct internal safety audit on both the Safety Management system and the internal site conditions to ensure safe working of system at regular intervals.

13. Transportation

13.1 The Contractor shall make his own transport arrangements for movement of Spares, Tools & Plant, Equipment and man power for this contract. No transportation facility shall be provided by BMRCL.

14. Spares

14.1 The Contractor shall maintain the safety stock of spare parts during the contract period for carrying out Schedule Maintenance / Breakdown Maintenance works. The Contractor shall replace defective parts indicated under Schedule – A at no additional cost.

14.2 BMRCL is having certain qty of 33KV Equipment spares. In the event of failure of any component, BMRCL may issue such spares for replacement on non-returnable basis. In such cases, payment will be made only towards Replacement as detailed in Schedule – C of Schedule of Prices and Contractor shall Replace Schedule – B items at no additional Cost. Decision of BMRCL in this regard is final.

14.3 The make and model of all the sub - components replaced shall be as per the BOQ / As-built drawings and approval of BMRCL shall be obtained.

15. Tools and tackles

15.1 Contractor's Scope

The Contractor shall maintain following but not limited to, tools and tackles throughout the period of contract. These tools and tackles shall be inspected by BMRCL at regular intervals.

1. Toolbox with following minimum tools of reputed make - 2 no's

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a. Ratchet with extender having various Metric sizes of sockets and bits.

b. Open end & Ring Spanners of all sizes.

c. Screwdrivers of all types.

d. Pliers of all types.

e. Hammers.

f. Allen Key of all sizes and type.

g. Square Keys.

2. Battery-Operated Impact Wrench -02 Nos.
3. Blowers – 02 Nos.
4. Industrial Vacuum cleaner - 02 Nos.
5. Ratchet type Torque wrench (150 Nm) - 02 Nos.
6. Head Mounted Torches – 5 Nos.
7. Junction box (20mtr-15A) – 02 Nos.
8. Crimping tool (0.5 - 16 sq.mm) - 02 Nos.
9. Individual PPE kit – Helmet, Electrical Hazard Safety Shoes, Reflective jackets, gloves etc.,
10. Mallet, Hacksaw frame & blade - 2 sets.

16. Testing equipment

16.1 Contractor's Scope

The Contractor shall maintain but not limited following testing equipment throughout the period of contract for carrying out various tests during Preventive / Breakdown maintenance. The successful Bidder shall obtain approval for the Make, Model and type of Testing Instruments used from BMRCL within One Month from the date of issue of LOA. These Testing equipment shall be calibrated every year from NABL accredited laboratory:

1. True RMS Multimeter – 2 Nos – Fluke 115 or equivalent.

The Contractor shall ensure that the Testing Equipment used for AMC activities are duly calibrated and fitness / Safety certificate from authorized agency are available.

16.2 BMRCL Scope

I. Following Testing Equipment shall be lend by BMRCL whenever required:

i) Multi-Function Primary Test System (ISA STS-5000) and accessories.

ii) CB Analyzer (ISA make CBA 2000) and accessories.

iii) Resistor Load Bank – 60 A.

iv) Battery Analyser Fluke 500

v) Current Injection Kit SMRT46.

vi) mA Clamp meter - 2 Nos – Fluke 368 or equivalent.

vii) Insulation Tester (5kV) - 2 Nos – Megger MIT 230 or equivalent.

II. The Contractor shall ensure that the tools and Testing equipment shall be returned to BMRCL in the same condition that was maintained at the time of handover.

III. Any damages to the Tools & Testing Equipment handed over by BMRCL shall be rectified at the contractor's cost.

17. Consumables

17.1 The Contractor shall maintain sufficient quantity of following consumables but not limited to throughout the period of contract for carrying out Preventive/ Breakdown maintenance.

1. Silicone sealant.
2. Cotton Waste cloth.
3. Mechanical & Electrical Grease. (As recommended by OEM)
4. Bio-Neutral Cleaning agents.
5. WD40 spray or equivalent.
6. Electrical contact cleaner.
7. Touch up paint of suitable color for enclosure.
8. Antistatic soft brush.
9. Puff-Up PU Seal

18. Development of maintenance management software (web version & mobile app)

18.1 The Contractor shall develop suitable Maintenance Management software for carrying out Preventive / Breakdown maintenance Suitable access shall be given to BMRCL officials.

18.2 The Software shall have features but not limited to following:

1. Development, Maintenance of Licensed version of Web and Mobile Application for Maintenance Management having facility for Planning/Scheduling of Activities, Analytics, Historian, library, spares management
2. Customized Check sheet as per approved Proforma Checklist.
3. Provision shall be made for entering of details of checks in the mobile application.
4. Raising Breakdown Tickets.
5. Generation of Preventive and Breakdown Maintenance Report including replaced spares with option of filter as per required format.
6. Generation and application of QR codes on each equipment for accessing the reports of Preventive Maintenance, Breakdown Maintenance and Spares Replaced.
7. Request, issue and Cancellation of work schedule with suitable hierarchy.
8. Record equipment history (Maintenance, Failure)
9. Library for Manuals, Schematic Diagrams, Safety Procedure and Work instructions.
10. Spares Management.

18.3 At the end of the Contract, all the data related to this contract shall be handed over to BMRCL and Contract shall not be in possession of above data / documents of BMRCL and shall delete all these data from the Server.

18.4 Contract shall not reproduce, use above BMRCL's data / documents (Drawings, manuals, checklists and any other maintenance data) for any purpose without written permission from BMRCL.

19. Reliability, availability and maintainability

19.1 The Contractor shall maintain the equipment covered under scope in such a way that following parameters are achieved to ensure trouble free service throughout the Contract period. The Contractor shall maintain following Key Performance Indicators (KPI) which will be linked up with payment.

19.2 Key performance Indicators (KPI) will be assessed based on the table given below:

KPI	Description	Marks
A	Maintaining of minimum manpower	20
B	Maintaining of tools and tackles	10
C	Maintaining of Consumables	5
D	Carrying out Scheduled Maintenance as per Latest approved Maintenance Schedule for the Quarter Period	50
E	Maintenance Management Software (Web Version & Mobile App) and Record keeping	5
F	Safety Equipment (PPE), Uniform & Personnel Behaviors	10

19.3 Based on the details given below Contractor shall submit the self-evaluated KPI with supporting documents. Employer shall verify the correctness and certify the same.

KPI	Conditions	Marks
A. Maintaining of minimum manpower	90% to 100%	20
	75% to 89 %	15
	50% to 74 %	10
	< 50%	0
B. Maintaining of tools and tackles	90% to 100%	10
	75% to 89 %	8
	50% to 74 %	5
	< 50%	0
C. Maintaining of Consumables	75% to 100%	5
	< 75%	0
D. Carrying out Scheduled Maintenance as per Latest approved Maintenance Schedule for the Quarter Period	All Scheduled maintenance activities are carried out as per planned target	50
	All Scheduled maintenance activities are carried out except One station /depot	40
	All Scheduled maintenance activities are carried out except Two station /depot	25

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	All Scheduled maintenance activities are carried out except Three or more station /depot	0
E. Maintenance Management Software (Web Version & Mobile App) and Record keeping	Maintaining "Maintenance Management Software (Web Version & Mobile App)" for Day-to-Day Maintenance Activities, Failure History of all Equipment, Spares Replaced details etc.,	10
	Non-Maintenance of "Maintenance Management Software (Web Version & Mobile App)"	0
F. Safety Equipment (PPE), Uniform & Personnel Behaviors	90 to 100%	10
	75% to 89 %	8
	50% to 74 %	5
	< 50%	0

Note:

1. If the Scheduled maintenance is not carried out more than three stations / depot in a given quarter is considered as poor performance of the contract and BMRCL may Terminate the Contract.
2. If the Breakdown maintenance not carried out more than three failures in a given Quarter is considered as poor performance of the contract and BMRCL may Terminate the Contract

20. Contract price and terms of payment

20.1 The Price quoted by the Bidder shall be fixed for the duration of the Contract and shall not be subject to adjustment on any account.

20.2 The payment to contractor shall be made on **Quarterly** Basis as detailed below:

SN	Payment for Schedule	Description
1	Schedule – A1 & Schedule – A2	25% (¼th) of the unit rate of all the BOQ items for the respective year shall be paid on a pro-rata basis
2	Schedule – B	For the Schedule - B items supplied during the billing quarter period
3	Schedule – C	For the Schedule - C items operated during the billing quarter period
4	Total (Schedule A1 + Schedule A2 + Schedule B + Schedule C)	Total Payment shall be made on Sum of Schedule A1, Schedule A2, Schedule B and Schedule C as detailed above

20.3 Payment shall be made only after completion of Maintenance of the Equipment covered under Contract as per Latest approved Maintenance Schedule for the Quarter Period. Contractor may submit the Revised Schedules for BMRCL approval. BMRCL decision is final in this regard.

20.4 Following documents shall be submitted for arranging payment:

I. Self-evaluated KPI form.

II. Attendance as a proof of minimum manpower.

III. Joint inspection report of testing equipment's, consumables and other necessary tools and tackle required for maintenance.

IV. Log sheets / checklists submitted as proof for completion of maintenance. Hard Copy of the filled scheduled maintenance checklists having authorized signatory shall be furnished.

V. Joint inspection report in case of Schedule – B items operated.

VI. Breakdown maintenance reports.

20.5 Due payment after completion of each quarter after making any recoveries / penalties shall be made to the Contractor.

20.6 No payment to the Contractor shall be released till the Contractor submits the bill for the work done.

20.7 Proportionate payment shall be deducted from the Contractor's bill if any work is found to be not done / is incomplete or is unsatisfactory, as adjudged by the BMRCL.

20.8 BMRCL may also, at their discretion get such defective / deficiency work done at the risk & cost of the contractor and recover the actual amount spent plus 20% of actual spent amount including all actual BMRCL establishment charges, from the Contractor's bills.

20.9 Repeated lapses in doing the work satisfactorily shall result in rescinding the Contract as per the Bid Terms & Conditions.

20.10 The payment as per the bill raised by the contractor will depend upon the overall score obtained by the contractor.

20.11 Details of payment evaluation are as under:

Sl. No	Total Marks Scored as per KPI (A+B+C+D+E+F)	% of payment
1	95 – 100	100%
2	90 – 94	95%
3	80 – 89	90%
4	70 – 79	80%
5	60 – 69	70%
6	50 – 59	50%
7	< 50	0%

21. Response time

Response time indicated is the maximum reporting time permitted to reach the station where corrective measures are to be taken for any breakdown.

For Panels / Equipment which are Out of Warranty / DLP Period: - Attending to any number of Breakdown Calls. This includes all types of major and minor failures any time during 24hrs X 365 days inclusive of all Sunday's and Holidays.

For Panels / Equipment which are covered under Warranty / DLP Period: - The first level of response will be from Contractor in the event of breakdowns, i.e. Visual observation of the equipment for the cause of failure, resetting of Relays in the event of tripping, isolation of electrical

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faults. This applies to all types of major and minor failures any time during 24hrs. X 365 days inclusive of all Sunday's and Holidays. Breakdowns including replacement of failed components will be carried out by EPC contractor.

21.1 **Critical Failure:**

Breaker Trip due to faults in all 33 kV AC equipment and Accessories covered under Contract resulting in disruption of train services during revenue operations even after utilizing the redundancy available by Remote operation. (i.e., in the event of tripping of breaker, isolation of faulty circuits, resetting of relays etc., at station is required for resumption of train services).

Response Time: 45 Minutes from the time of intimation.

21.2 **Non-Critical Failure:**

Alarms / Trips due to faults in all 33 kV AC equipment and Accessories covered under Contract not resulting in disruption of train services during revenue operations by utilizing the redundancy available by Remote operation. (i.e., in the event of tripping of breaker, isolation of faulty circuits, resetting of relays etc., at station is required for normalising the power supply).

Response Time: 90 Minutes from the time of intimation.

It shall be noted that in case of tripping of 33 kV AC switchgear, the contractor shall deploy their staff on top most priority for resetting of such relays and put back the Equipment into Service. Further, in case of operation of DC Earth leakage relay, which will result in tripping of incoming 33 kV AC breakers, contractor's representative shall reset AC relays also under the guidance of OCC / TPC to normalise the power system. The contractor shall make arrangements for training of their personnel to handle such eventualities.

22. Penalty

22.1 The Employer may deduct Penalty imposed from payments due to the Contractor. Payment of Penalty does not affect the Contractor's liabilities.

22.2 This penalty shall not relieve the Contractor from his obligation to execute the works or from any other of his obligations and liabilities under the contract. The decision of BMRCL regarding levy of penalty shall be final and binding.

22.3 During the Contract period, if any equipment remains out of service for the period stated herein then BMRCL shall impose a penalty

22.4 BMRCL has rights to waive off the penalty based on genuine reasons not attributable to contractor. In such case contractor shall write letter with details reason explaining inability of contractor for completion of work within target time.

22.5 The details of possible events, their target time, penalties are listed in table below

SN	Activity	Target time	Time	Penalty per case (in INR)
1	Normal scheduled Power block activities / Preventive Maintenance of all Equipment covered under the contract	0 min beyond approved PTW time	> 0 min & <30min other than first time in a month	2,500.00
			>30 min &<60 min	5,000.00
			>60 min	10,000.00
2	Break down Maintenance of	Minor- Necessitating replacement of	>5 Hours & <6 Hours	5,000.00

SN	Activity	Target time	Time	Penalty per case (in INR)
	33 kV Switchgear are out of Warranty / DLP Period	components. within 5 hours starting from approved PTW time	>6 Hours &<8 Hours	10,000.00
			> 8 Hours	15,000.00
		Major- Necessitating replacement of components. within 8 hours starting from approved PTW time (Considering Joint inspection with BMRCL)	> 8 Hours &< 10 Hours	10,000.00
			> 10 Hours &< 12 Hours	20,000.00
			> 12 Hours	25,000.00
3	Break down Maintenance of Traction / Auxiliary Transformer which are out of Warranty / DLP Period	Minor- Necessitating replacement of components Three (3) hours starting from approved PTW time (Considering Joint inspection with BMRCL)	>3 Hours &<4Hours	5,000.00
			>4 Hours &<6 Hours	10,000.00
			> 6 Hours	15,000.00
		Major- Necessitating replacement of components. Five (5) hours starting from approved PTW time (Considering Joint inspection with BMRCL)	> 5 Hours &< 6 Hours	10,000.00
			> 6 Hours &< 8 Hours	20,000.00
			> 8 Hours	25,000.00
4	Break down Maintenance of ACDB / DCDB / Battery Bank for the Panels which are out of Warranty / DLP Period	Minor- Necessitating replacement of components Three (3) hours starting from approved PTW time (Considering Joint inspection with BMRCL)	>3 Hours &<4Hours	5,000.00
			>4 Hours &<6 Hours	10,000.00
			> 6 Hours	15,000.00
4	Break down Maintenance of ACDB / DCDB / Battery Bank for the Panels which are out of Warranty / DLP Period	Major- Necessitating replacement of components. Five (5) hours starting from approved PTW time (Considering Joint inspection with BMRCL)	> 5 Hours &< 6 Hours	10,000.00
			> 6 Hours &< 8 Hours	20,000.00
			> 8 Hours	25,000.00
5	Break down	Minor- Necessitating	>3 Hours &<4Hours	5,000.00

SN	Activity	Target time	Time	Penalty per case (in INR)
	Maintenance of 33 kV Cables which are out of Warranty / DLP Period	reloading of parameters. Three (3) hours starting from approved PTW time (Considering Joint inspection with BMRCL	>4 Hours &<6 Hours	10,000.00
			> 6 Hours	15,000.00
		Major- Necessitating replacement of components. Five (5) hours starting from approved PTW time (Considering Joint inspection with BMRCL	> 5 Hours &< 6 Hours	10,000.00
			> 6 Hours &< 8 Hours	20,000.00
			> 8 Hours	25,000.00
6	Response Time from the time of intimation	Critical Failure	>45 mins & < 90 mins	10,000.00
			>90 mins	25,000.00
		Non – Critical Failure	> 90 mins & < 150 mins	5,000.00
			> 150 mins	10,000.00
7	Any incident that caused (or had the potential to cause any) Interruption to Train Services, if the reason attributable to Contractor's negligence in Preventive / Breakdown maintenance.		Up to 5 mins	25,000.00
			Up to 15 mins	50,000.00
			> 15 mins	1,00,000.00

22.6 For all the Equipment which are covered under Warranty / DLP period, penalty for attending to Breakdown Maintenance (attending to defects and replacement of components) is not applicable.

22.7 The penalty shall be levied and deducted from the due payments of the contractor irrespective of their KPI score and percentage of payment.

22.8 The decision of BMRCL regarding levy of penalty shall be final and binding. However maximum amount of penalty leviable shall be 10% of the total contract value.

23. Subcontracting

23.1 Prior approval of the Employer shall be obtained before sub-contracting any part of the works. However, the Contractor shall not subcontract the whole of the Works.

24. Access to the site

24.1 Security and Passes:

i) Contractor's attention is invited to condition that, he shall employ only Indian Nationals after verifying their antecedent and loyalty. The Contractor shall, maintain list of his employees shall satisfy the BMRCL as to the bonafides of such people, and submit to the BMRCL on demand.

ii) BMRCL shall at his discretion have the right to issue passes/ID Cards as per rules and regulations of the installation, area in force to Contractor.

iii) Contractor's maintenance staff shall wear uniform and shall display BMRCL authorized identity card with photograph issued by the Contractor/BMRCL while entering the BMRCL premises**.**

iv) The Contractor employees are required individually to be in possession of an identity Card or Pass duly verified/ issued by the BMRCL. The identity card or pass will be examined by the Security Staff at the time of entry into or exit from the Restricted Area and also at any time or number of times inside the Restricted Area.

v) Contractor shall be responsible for the conduct and action of his workmen, agents or representatives.

vi) Passes / ID Cards shall be returned at any time on demand by the BMRCL or the authorities concerned and, in any case on completion of work.

vii) The Contractor employees shall observe all the Rules promulgated by the authority controlling the installation area in which the work is to be carried out. e.g. Prohibition of smoking and lighting, fire precautions, search of persons on entry and exit, keeping to specific route, observing specified timing, etc., nothing extra shall be admissible for any man hours, etc., lost on this account.

24.2 Conditions of working in Restricted Area

Work under this Contract lies in restricted area.

24.3 Visit to Site within the Restricted Area

Permission to enter the restricted areas at the time of submission of Bids can be obtained through the BMRCL. Bidders are advised to send prior intimation of their representatives etc., if any, dates and time of their proposed visit so that necessary arrangements may be made by Employer to secure admission. Whether a Bidder visits the site or not he shall be deemed to have full knowledge of the restriction of entering into/ exit from and working within the restricted area.

24.4 Entry / Exit

The Contractor his agents/ representatives, workmen etc., and his materials, carts, trucks or other means of transport etc., will be allowed to enter through and leave from only such gate or gates and such times as the employer or authorities in charge of the restricted areas may at their sole discretion permit to be used. The Contractor's authorized representatives are required to be present at the place of entry and exit for the purpose of identifying his carts, trucks etc., to the personnel in charge of the security of restricted areas.

24.5 Search

Thorough search of all persons and transport shall be carried out at each gate and for as many times as the gate is used for entry or exit and may also be carried out at any time or any number of times at the work site within the Restricted area.

25. Electric supply

25.1 For Routine Works of Preventive Maintenance and attending Breakdowns, Electricity will be provided Free of Cost and can be tapped from the nearest available Power Supply Sockets duly following all safety precautions. No other works other than the works connected to the contract should be carried out in the BMRCL Premises.

25.2 Electricity and water facility (wherever available) will be provided free of cost for the office/store allotted to contractor within the BMRCL premises.

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26. Inspections and Tests

26.1 Inspections and tests at final acceptance are as follows:

26.2 The inspection of the materials / Works shall be carried out to check whether the materials / Works are in conformity with the Technical Specifications attached to the Contract and the General Conditions of Contract. Following broad test procedure will generally be followed for inspection and testing of works.

26.3 In the event of the materials / Works failing to pass the acceptance test, a period not exceeding two weeks will be given to rectify the defects and clear the acceptance test, failing which the Employer reserves the rights to get the Works replaced / redone by the Contractor at no extra cost to the Employer.

27. Variations

27.1 Total variation under the Contract shall be limited to ± 25% of the Total Original Value of the Contract.

28. Taxes and duties

28.1 The Contract Prices are all inclusive i.e. all taxes, duties, local levies / transportation / loading-unloading charges etc. except GST

28.2 Break up of GST shall be indicated by the Contractor shall undertake that the Goods and Services Tax (GST) charged is not more than what is payable under the provision on the relevant Act or the Rules made there under and that the Goods on which GST has been charged have not been exempted under the GST Act or the Rules made there under and the charges on account of GST on these goods are correct under the provision of that Act or the rules made there under.

28.3 Bidders are advised to check applicable GST on their own before furnishing the invoice. Buyer will not take any responsibility in this regard. GST reimbursement will be as per actuals or as per applicable rates (whichever is lower), subject to the maximum of quoted GST %.

28.4 **Income Tax deduction:** As per the prevailing rate shall be deducted and remitted to the Income Tax authorities and Form 16 shall be furnished by BMRCL in proof of remittance to IT Department. For availing lower deduction of Income Tax, necessary certificate for each financial year issued by the Income Tax Authority shall be furnished by the Contractor, failing which IT at the maximum rate will be deducted.

28.5 **Change in Law:** "Change in Law" means the occurrence or coming into force of the following, at any time after the last Date of Submission of Bid. Due to the new tax regime (GST) when introduced after the commencement of work in pursuance of this contract and in the course of execution this contract but before completion of this contract, the contractor shall reduce the excise duty element on the material component and additional Custom Duties, if any, and rework the contract price. On the reworked contract price, BMRCL shall reimburse the taxes viz: Integrated Goods and Service Tax (IGST), Central Goods and Service Tax (CGST) & State Goods and Service Tax (SGST), as are claimed in each of the Interim Payment Certificate (IPC)/Running Bill.

28.6 The Contract Price shall be inclusive of all charges of insurance (Insurance Copies shall be furnished wherever applicable), transportation up to destination, handling, installation, royalties & any other charges leviable and payable by the Contractor under the Contract, or for any other cause and including Tax to be deducted at source and shall be included in the Total Bid Price.

28.7 Contractors shall be entirely responsible for license fees, octroi, road permits, etc., incurred until completion of the whole of the Works and handover to the Employer.

28.8 The successful Bidder shall maintain complete records of duties, other taxes and levies, etc.; payable to various authorities in relation to the Works and submit the receipts/records for

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verification as and when demanded in writing by the Employer.

28.9 Entry Tax payment challans in relation to this Contract are to be enclosed along with the respective bills for payment.

29. Use of contract documents and information; inspection and audit by the government

29.1 **Security of Classified Documents:** The Contractor shall not communicate any classified information regarding AMC work to others without prior approval of Engineer. The Contractor shall also not make copies of the design / drawings and other documents furnished to him in respect of works and he shall return all documents after completion of works or on earlier determination of Contract. The Contractor shall along with final bill, attach a receipt from the Engineer in respect of his having returned the classified documents and the Tenderer shall Execute Non-Disclosure Agreement

30. Approved materials

30.1 The Contractor shall obtain approved materials from manufacturers authorized stockiest where such authorized stockiest have been appointed. The Contractor shall produce original receipt voucher of the same.

30.2 The Contractor shall ensure that approved materials are brought to site in original sealed containers/packing, without breaking manufacturer's markings.

31. Contractor's office

31.1 BMRCL shall provide the space of for setting up an Office & Store in Depot /Station at no additional cost.

31.2 It shall be the responsibility of the Contractor to provide and secure shelves / Almirah for storing Spare items and furniture for office. The Contractor shall make his own arrangement for security of the Space.

31.3 Contractor shall have own system of safe custody and maintenance of their spares in the above storage space and BMRCL will in no way be responsible for the safety and security of spares.

31.4 The setting up of infrastructure in the above storage space shall be the sole responsibility of the Contractor. BMRCL reserves the right to inspect the above location at short notice/without notice. The allotted space shall only to be utilized for works connected with this Contract

32. Supply of materials, tools & plant and equipment

32.1 No material, tools, machinery, plant and equipment shall be supplied by the Employer except as mentioned in the Bid Document. The Contractor has to arrange all tools, equipment as well as cleaning reagents and consumables required for the work.

32.2 The Contractor shall supply the items as installed of the same make in the existing equipment. Replacement of all the spares / components shall be of the same make, type and model.

-x-x-x-

SECTION 6: CONTRACT DATA

Items marked "N/A" do not apply in this Contract.

The following documents are also part of the Contract:	**Clause Reference**
1. The Schedule of Operating and Maintenance Manuals	N/A
2. The Methodology and Program of Construction	N/A
3. Site Investigation Reports	N/A
4. The Schedule of Key and Critical Equipment to be deployed on the work as per agreed program of construction.	N/A
5. The Employer Name & Address:	[ITT Cl 1.1]
6. The name and identification number of the Contract is	[ITT Cl 1.1]
7. The start date shall be the date of issue of notice to proceed with the work.	[Section 4]
8. The Intended Completion Date for the whole of the Works is _____	[17, 26]
9. Milestone dates:	N/A
10. The Site Possession Date is:	[CC Cl 21]
11. The Site is located at	[Cl 6 Section8]
12. The Defects Liability Period	[N/A]
13. Insurance requirements are as under:	[CC Cl 13]
14. The liquidated damages for the items to be supplied: (for the corresponding BOQ item)	[0.5% per week]
15. Price Adjustment Formula:	[N/A]

-x-x-x-

SECTION 7: SPECIFICATIONS AND SCOPE OF WORK

1. Preamble

1.1. BMRCL is operating Trains Yellow Line between RV Road to Bommasandra

1.2. This Bid is for providing Maintenance Services for maintaining 33 kV Switchgears and Associated Equipment with trained man power.

1.3. The Annual Maintenance Contract is for a period of 60 months.

1.4. The Equipment in R5 Stations of Phase-2 were handed over to BMRCL in August-2025 and R6 Elevated Stations will likely be handed over to BMRCL tentatively in March 2026. In view of this, the Contractor shall carry out Preventive Scheduled Maintenance for Initial Two Years from the date of Handing Over during which the stations will be under DLP/Warranty period as per the Scope of Work & Terms and Conditions of the Contract. Contractor shall carry out both Preventive and Breakdown maintenance for rest of the Contract Period as per the Scope of Work & Terms and Conditions of the Contract

1.5. 33 kV Switchgears are operated from OCC. The equipment are interfaced through dedicated SCADA network to OCC and BCC. All the Sections / Stations are un manned. All alarm and trip events are generated in OCC and directions are issued to the concerned for carrying out rectification action.

2. Scope of work

The Annual Maintenance Contract is for the period of Five years and includes Four Schedules.

2.1. Schedule – A1

The Scope of Work under this Schedule is applicable for the Equipment / Stations which are under Warranty/DLP period. The Scope Covers Quarterly, Half Yearly and Yearly Scheduled Maintenance Activities as per the approved checklist including usage of recommended consumables.

2.2. Schedule – A2

The Scope of Work under this Schedule is applicable for the Equipment / Stations which are Out of Warranty/DLP period. The Scope Covers Preventive Maintenance and any number of Corrective / Breakdown Maintenance Activities for a period of 5 years including usage of recommended consumables & replacement of minor spares as listed under this Schedule.

2.3. Schedule - B

The Scope of Work under this Schedule is applicable for the Equipment / Stations which are Out of DLP period. Schedule – B of the contract covers Mandatorily Supply and replacement on Need Basis of the items which are anticipated to fail & which are failed and noticed during Preventive / Breakdown Maintenance.

2.4. Schedule - C

Schedule-C of the contract covers the following on Need Basis

1. Replacement of Dry Type Transformer of ratings 2850 kVA / 2000 kVA / 500 kVA
2. Replacement of 33 kV Vacuum Circuit Breaker (VCB).
3. Health Assessment / Testing of 33 kV Cables
4. Supply and Replacement of Battery Bank
5. Supply and Installation of EPDM Module

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6. Rectification of failed 33 kV Cable

2.5. Details of the Equipment along with population and location covered under Annual Maintenance Contract are detailed in Cl 5, 6 & 7 of Section 8 : Drawings.

2.6. The Proforma of Checklists is detailed at Cl 8 of Section 8 : Drawings

2.7. **List of Schedule-B items**

List of Schedule B items for all 33 kV Switchgear, Traction Transformers, Auxiliary Transformers, ACDB, DCDB and Battery Bank as mentioned in the Price Schedule B.

3. Permit to work

3.1. All Preventive / Breakdown Maintenance activities shall be carried by the Contractor under the supervision of BMRCL representative only.

3.2. Permit to work / Power block from TPC / OCC shall be availed by BMRCL supervisor only.

3.3. All Preventive / Breakdown Maintenance activities shall be carried out under the PTW availed by BMRCL supervisor only.

4. Charging clearance

4.1. After completion of Preventive/ breakdown maintenance, the Contractor shall give charging clearance in the prescribed format of the equipment to the Employer before putting back the equipment into service/ operation.

4.2. The Contractor shall be present at site after completion of work, till the panel / equipment is charged / energized.

5. General

5.1. The Contractors are advised to keep all equipment covered under contract in 100% functional condition along with the redundancy available in the system. The contractor should formulate the mechanism for periodical observation of all the equipment as per scope of work for visual inspection for abnormalities, apart from carrying out scheduled maintenance.

5.2. In order to ensure that the system will meet the Reliability, Availability, Maintainability & Safety targets. The Contractor shall conduct a detailed Maintenance Requirement Analysis to derive a complete list of preventive maintenance schedules and procedures including but not limited to the activities indicated in the check list. The Maintenance Requirement Analysis shall identify for each system function the potential functional failures, the failure consequences and the appropriate maintenance approach.

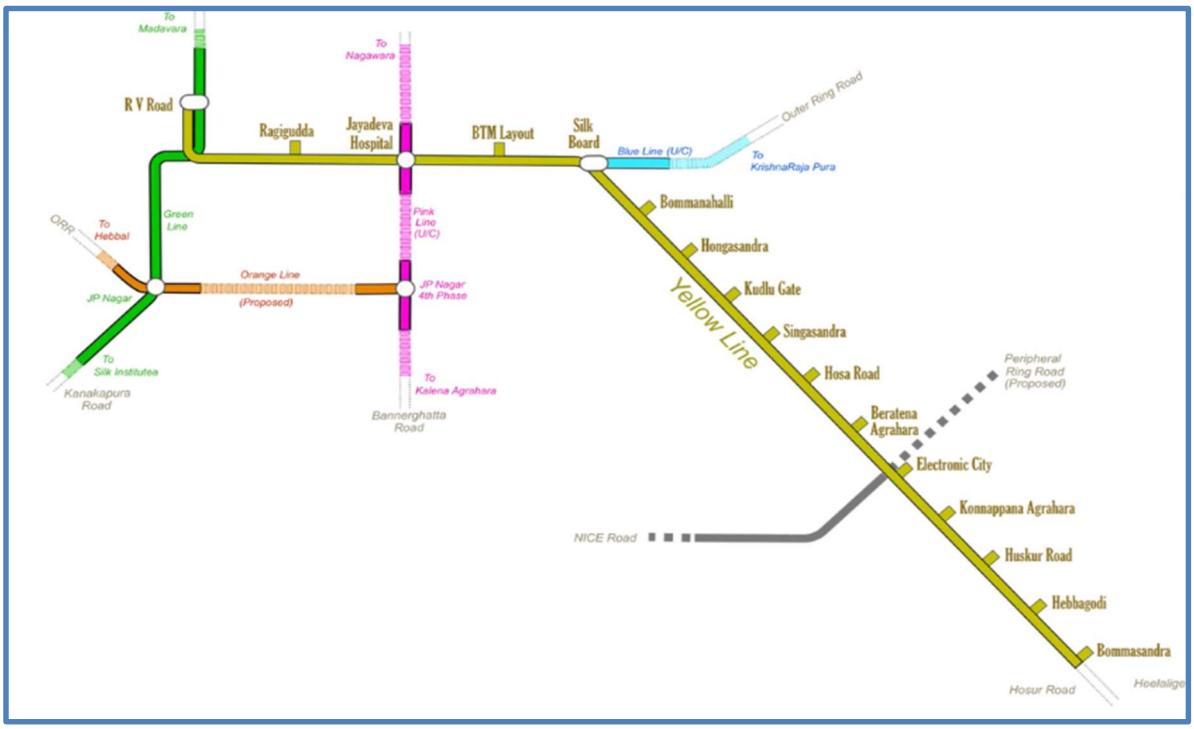
5.3. One-day Training shall be imparted to contractor's staff on familiarization of BMRCL network by BMRCL and once in a year, refresher training to contractor's staff pertaining safety procedures, precautions at work and in BMRCL Premises.

5.4. The contractor has to organize one-day training for BMRCL departmental staff which includes brief introduction to the Technologies / Technical up gradation of assembly / sub assembly of 33 kV AC Equipment and Accessories periodically and safety measures to be followed. However, prior approval of Engineer in charge shall be obtained for the course content and any additions & deletions can be done to incorporate the present technologies.

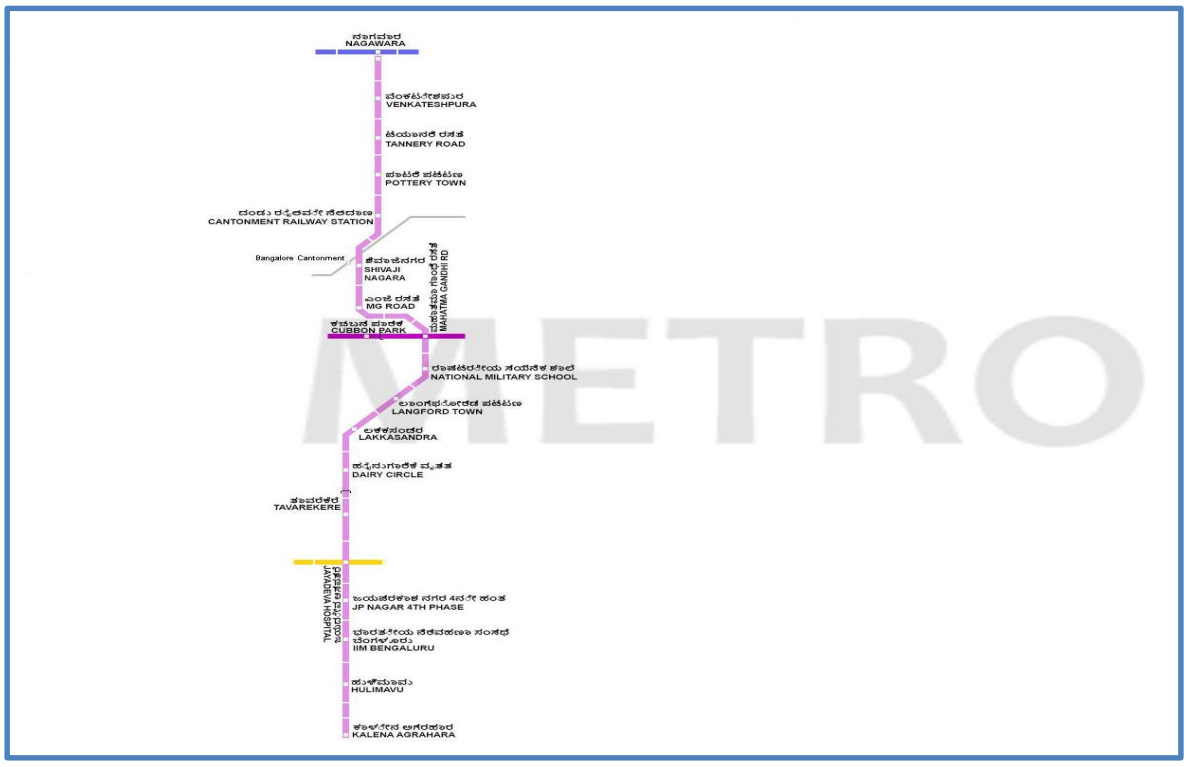
-x-x-x-

SECTION 8: DRAWINGS

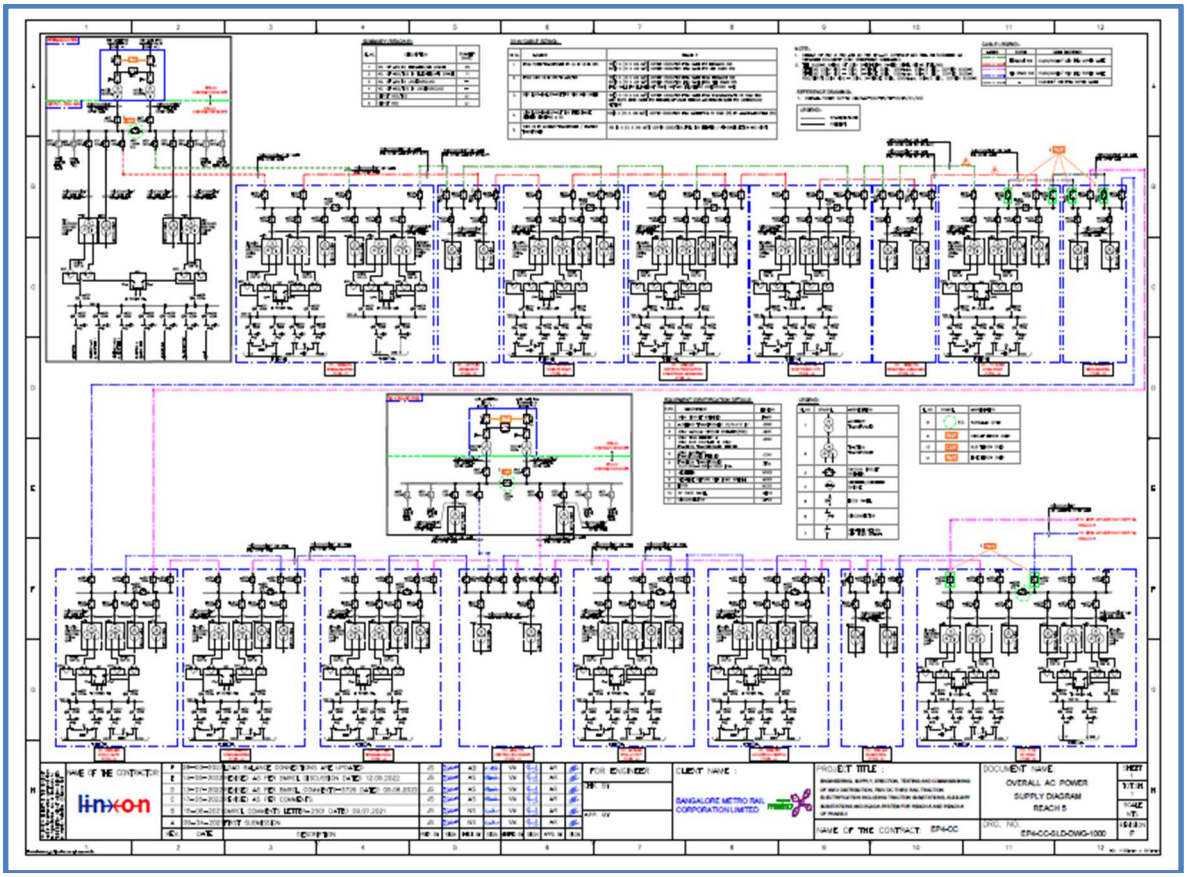
1. Reach – 5 Stations Map



2. Reach – 6 Stations Map



3. Single line diagram



4. List of Assets

SN	Description of the Equipment	UOM	Qty	
			R5	R6 (Elevated Stations)
1	33 KV Vacuum Circuit Breaker	Nos	161	68
2	Bus PT Panels	Nos	36	14
3	415 V AC Distribution Board	Nos	20	08
4	110 V DC Distribution Board	Nos	20	08
5	33 KV /415 V Auxiliary Transformer including Bus Duct	Set	36	12
6	33KV/585V/585V Traction Transformer including Bus Duct	Nos	28	14
7	160AH , 110 V DC Battery Bank	Nos	2	1
8	182AH , 110 V DC Battery Bank	Nos	5	1
9	300AH , 110 V DC Battery Bank	Nos	11	5
10	695AH, 110 V DC Battery Bank	Nos	4	2

5. Details of the Equipment along with population station wise

SN	Station Code	33KV SWG	BPT	TRAC TRF 2850 kVA	AUX TRF		ACDB 415 V AC	DCDB 110 V DC	BATTERY BANK					Total
					500 kVA	2000 kVA			182 AH	300 AH	695 AH	703 AH	160 AH	
R5 Section														
1	BMSD	11	2	4	2	-	1+1	1+1	-	1+1	-	-	-	25
2	HBGI	6	2	-	2	-	1	1	1		-	-	-	13
3	HSKR	9	2	2	2	-	1	1	-	1	-	-	-	18
4	ECTN	9	2	2	2	-	1	1	-	1	-	-	-	18
5	ETCT	9	2	2	2	-	1	1	-	1	-	-	-	18
6	HOSR	6	2	-	2	-	1	1	1	-	-	-	-	13
7	BSRD	9	2	2	2	-	1	1	-	1	-	-	-	18
8	CKBR	6	2	-	2	-	1	1	1		-	-	-	13
9	MSRN	9	2	2	2	-	1	1	-	1	-	-	-	18
10	OFDC	9	2	2	2	-	1	1	-	1	-	-	-	18
11	HSRL	9	2	2	2	-	1	1	-	1	-	-	-	18
12	SBJT	8	2	-	2	-	1	1	-	1	-	-	-	15
13	BTML	9	2	2	2	-	1	1	-	1	-	-	-	18
14	JDHP	9	2	2	2	-	1	1	-	1	-	-	-	18
15	RGDT	6	2	2	2	-	1	1	-	1	-	-	-	15
16	RVR	13	2	4	2	-	1	1	-	1+1	-	-	-	25
17	HBGD	13	2	2	-	2	1	2+1	-	-	2	-	1	26
18	SBRSS	11	2	-	2	-	1	2+1	-	-	-	2	1	22
R6 Section														
1	JPN IV	6	2	-	2	-	1	1	1	-	-	-	-	13
2	HLMU	9	2	2	2	-	1	1	-	1	-	-	-	18
3	IIMB	9	2	2	2	-	1	1	-	1	-	-	-	18
4	TVKR	9	2	2	2	-	1	1	-	1	-	-	-	18
5	JDGP	11	2	2		-	1	1	1	-	-	-	-	18
6	KLAG	11	2	4	2	-	1	1	-	1	-	-	-	22
7	KRSS	13	2	2	2	-	1	1	-	-	2	-	-	23
8	OCC-2	5	-	-	2	-	1	1	-	1	-	-	-	10

6. Station Names & Type

SN	Station Code	Station Name / Location	TSS / ASS	TYPE
R5 Section				
1	BMSD	Bommasandra	TSS & ASS	Type - F
2	HBGI	Hebbagodi	ASS	Type - D
3	HSKR	Huskur Road	TSS & ASS	Type - A
4	ECTN	Infosys Foundation	TSS & ASS	Type - A
5	ETCT	Electronic City	TSS & ASS	Type - A
6	HOSR	Beratena Agrahara	ASS	Type - D
7	BSRD	Hosa Road	TSS & ASS	Type - A
8	CKBR	Singasandra	ASS	Type - D
9	MSRN	Kudlu Gate	TSS & ASS	Type - A
10	OFDC	Hongasandra	TSS & ASS	Type - A
11	HSRL	Bommanahalli	TSS & ASS	Type - A
12	SBJT	Central Silk Board	ASS	Type - C
13	BTML	BTM Layout	TSS & ASS	Type - A
14	JDHP	Jayadeva Hospital	TSS & ASS	Type - A
15	RGDT	Ragigudda	ASS	Type - D
16	RVR	R V Road	TSS & ASS	Type - B
17	HBGD	Hebbagodi Depot	TSS & ASS	-
18	SBRSS	Silk Board RSS	TSS & ASS	-
R6 Section				
1	JPN IV	JP Nagar IV Phase	TSS & ASS	Type - D
2	HLMU	Hulimavu	TSS & ASS	Type - A
3	IIMB	IIMB	TSS & ASS	Type - A
4	TVKR	Tavarekere	TSS & ASS	Type - A
5	JDGP	Jayadeva Hospital	TSS & ASS	Type - E
6	KLAG	Kalena Agrahara	TSS & ASS	Type - F
7	KRSS	Kothanur Depot	TSS & ASS	-
8	OCC ASS 2	Baiyappanahalli Depot	TSS & ASS	-

7. Proforma Checklists

Preventive maintenance of following equipment shall be carried out as per check list given below. The contractor can carry out additional checks for maintaining healthiness of the system at no extra cost.

I. 33KV SWITCHGEAR AND VCB

SN	Description
A	**Yearly Checks**
1	Visual Inspection, Mechanical/Electrical Checks, Cleaning
2	Inspect all current carrying contacts/cables terminations for abnormalities, record if any.
3	General Cleaning of Cubicles along with Trolley Components using vacuum cleaner and air blower(Clean the surfaces using ETHANOL F25M or mildly alkaline household cleanser)
4	Check TULIP contacts, clean and apply electrical contact grease
5	Clean Busbar Compartment and check bus bar tightness
6	Remove Open, Close and UV coil. Apply WD40 spray and check for smooth operation
7	Apply WD40 spray for spring charge mechanism (gear) and charge the spring manually and electrically. Check for smooth operation.
8	Check the main actuator lever roller bearing lubrication (lubricate with oil)
9	Check the Tightness of guide rail, Earthing connections
10	Check for smooth operation and lubricate Rack in / out mechanism of VCB & Earth Switch
11	Check the Hinges, Locks, gaskets
12	Note the no. of operations recorded in the counter
13	Check the Tightness of 1. Cable/busbar Terminations. 2. BB1, BB2 contacts and other control cable in VCB. 3. Control cables in control cubical.
14	Electrical & Mechanical interlocks: 1). Earth Switch and Castle lock interlocks. 2). VCB Rack IN/OUT (SERVICE/TEST). 3). UV coil operation(if applicable). 3. Simulate alarms: DC Fail, TCS Unhealthy, Spring not charged, Transformer Wdg/core Temperature alarm / trip (if applicable), Earth Leakage relay operated (if applicable), and verify indications in SCADA
15	Check for heater circuit for proper function
16	Touch up paint if required with RAL 7035
17	Test - Insulation Resistance (IR) Measurement of VCB (Note : Apply 5000 V DC) (Criteria : > 100 M Ohm)
18	Test - VCB Operation Time Measurement (Criteria : Close < 75 ms, Open < 40 ms,

SN	Description
	Close – Open : < 40 ms)
19	Test - VCB Contact Resistance Measurement (CRM). (Note : Inject 100 A DC) (Criteria : < 40 μ Ω)
20	Test - CT Insulation Resistance (IR) Measurement. (Note : Apply P - E: 5 kV, P - S : 5 kV, S – S (500 V), S – E (500 V)) (Criteria : > 100 M Ω)
21	Test - CT Secondary resistance measurement (Criteria : < 4 Ω for Core - 1, < 5 Ω for Core – 2 & 3 and < 1 Ω for CBCT)
22	Test - PT Insulation Resistance (IR) Measurement. (Note : Apply P - E: 5 kV, P - S : 5 kV, S – S (500 V), S – E (500 V)) (Criteria : > 100 M Ω)
23	Test - PT Secondary Resistance Measurement. (Criteria : < 1 Ω for Core – 1 & 2)

II. 33KV VCB BUSPT

SN	Description
A	**Yearly Checks**
1	Visual Inspection, Mechanical/Electrical Checks, Cleaning
2	Inspect all current carrying contacts/cables terminations for abnormalities, record if any
3	General Cleaning of Cubicles along with Trolley Components using vacuum cleaner and air blower(Clean the surfaces using ETHANOL F25M or mildly alkaline household cleanser)
4	Check TULIP contacts, clean and apply electrical contact grease
5	Clean Busbar Compartment and check bus bar tightness
6	Check the main actuator lever roller bearing lubrication (lubricate with a few drops of SAE 80W/90 type oil, using a special oiler)
7	Check the Tightness of guide rail, Earthing connections
8	Check for smooth operation and lubricate Rack in / out mechanism of PT trolley & Earth Switch
9	Check the Hinges, Locks, gaskets
1	Check the Tightness of 1.Cable/busbar Terminations. 2.Control cables in control cubical.
1	Check for heater circuit for proper function
1	Touch up paint if required with RAL 7035

III. 33 KV /415 V Auxiliary Transformer including Bus Duct

SN	Description
A	**Half Yearly Check**
1	Check for any contamination, traces of corrosion or electrical discharge phenomena
2	Check the thermal protection sensors (PT100) if any abnormalities noticed in

SN	Description
	temperature recorded
3	Clean any dust from surfaces using a vacuum cleaner or by blowing with dry air
4	Cleaning of transformer enclosure for dust removal with vacuum cleaner and low-pressure electric Blower
5	Tightening of bolts & nuts HV/LV of Incoming / Outgoing cables
6	Check for Earthing connection tightness
7	Check the tap changer links and tighten them if required. (The tapping must be same for all the coils.)
8	Check the door limit switch and castle key lock for proper operation.
B	**Yearly Checks**
9	All Half Yearly Checks
10	Inspect Temperature Measuring & control unit. Check the alarm and trip settings. NOTE: Wdg :Alarm :90 deg C Trip:120 deg C Core :Alarm :120 deg C Trip:150 deg C
11	Simulate alarm and trip signals and verify indications of alarm and trip in relay and OCC
12	Touch up paint if required.
13	Test - Insulation Resistance (IR) Measurement of Transformer (Note : P-S,PE(5kV), S-E (500v)) (Criteria : > 100 M Ohm)
14	Test - Ratio Measurement at normal TAP. (Note : Apply 415 V AC across Primary) Calculated Ratio Test Values at Normal P - S is 79.51
15	Bus Duct
A	Check tightness of fasteners (outside) with recommended torque
B	Conduct IR Test on Bus Duct
C	Inspect the Bus Duct supporting clamps grouted to the roof
D	Identification and Rectification of Faults (if any) by dismantling the Cover Plates. Supply of Bus Duct Segment is not in the Scope of Contractor

IV. 33KV/585V/585V Traction Transformer

SN	Description
A	**Half Yearly Checks**
1	Check for any contamination, traces of corrosion or electrical discharge phenomena
2	Check the thermal protection sensors (PT100) if any abnormalities noticed in temperature recorded
3	Clean any dust from surfaces using a vacuum cleaner or by blowing with dry air
4	Cleaning of transformer enclosure for dust removal with vacuum cleaner and low-pressure electric Blower
5	Tightening of bolts & nuts HV/LV of Incoming / Outgoing cables
6	Check for Earthing connection tightness

.

SN	Description
7	Check the tap changer links and tighten them if required. (The tapping must be same for all the coils.)
8	Check the door limit switch and castle key lock for proper operation
B	**Yearly Checks**
9	All Half Yearly Checks
10	Inspect Temperature Measuring & control unit. Check the alarm and trip settings. NOTE: Wdg -Alarm 90 deg C. Trip:120 deg C. Core - Alarm 120 deg C Trip:150 degC
11	Simulate alarm and trip signals and verify indications of alarm and trip in relay and OCC
12	Touch up paint if required.
13	Test - Insulation Resistance (IR) Measurement of Transformer (Note : P-S,PE(5kV), S-E, S-S (500v))
14	Test - Ratio Measurement at normal TAP. (Note : Apply 415 V AC across Primary) Ratio Test Values at Normal Tap - Calculated Ratio P /S: (113 for Phase-1, 56.4 for phase1 Extension stations)
15	Bus Duct
A	Check tightness of fasteners (outside) with recommended torque
B	Conduct IR Test on Bus Duct
C	Inspect the Bus Duct supporting clamps grouted to the roof
D	Identification and Rectification of Faults (if any) by dismantling the Cover Plates. Supply of Bus Duct Segment is not in the Scope of Contractor

V. 415 V AC Distribution Board

SN	Description
A	**Half Yearly Checks**
1	Check visually indication lamps, fuses and note down and replace if any faulty
2	Clean the surfaces with air blower
3	Check the tightness of cable terminations & fasteners
4	Inspect wiring for Wear & cuts
5	Indications of overheating, arcing or insulation breakdown
6	Inspect all door gaskets for wear. Replace where necessary
B	**Yearly Checks**
7	All Half Yearly Checks
8	Scheme and functional checks & verification of feedback signals in SCADA
9	Simulate Under voltage and check alarm in Relay & SCADA

VI. 110 V DC Distribution Board

SN	Description
A	**Half Yearly Checks**
1	Check visually indication lamps, fuses and note down and replace if any faulty
2	Clean the surfaces with air blower
3	Check the tightness of cable terminations & fasteners
4	Inspect wiring for Wear & cuts
4	Indications of overheating, arcing or insulation breakdown
5	Inspect all door gaskets for wear. Replace where necessary
6	Intertripping Junction Box (IJB) - Inspect, clean and tighten the Terminals (wherever applicable)
B	**Yearly Checks**
7	All Half Yearly Checks
8	Scheme and functional checks & verification of feedback signals in SCADA
9	Simulate Under voltage and check alarm in Relay & SCADA

VII. 110 V DC Battery Bank

SN	Description
A	**Quarterly Checks**
1	Clean the battery cells using DM water and apply Petroleum Jelly
2	Inspect the battery cell vent caps, aerate the gas collected (clean if required)
3	Check the electrolyte level of all cells visually, top up if required
4	Each cell & Full Bank v/g in FCBC OFF condition at 0th hour (Upload PHOTO of Vg Measured CHECK LIST)
5	Each cell & Full Bank v/g in FCBC OFF condition after 1st hour.(Upload PHOTO of Vg Measured CHECK LIST)
6	Current fed to Load in FCBC OFF Condition
7	Ripple v/g in FCBC ON condition
8	Record specific gravity of battery cells Yearly. Limit of Specific gravity value to be maintained is 1.2
9	Check the tightness of all cell inter connectors and cable termination
10	Replacement of Defective Cells with New Spare Cells is in the Scope of the Bidder. New Spare Cells will be provided by BMRCL. Transportation of Battery Cells from Store to Station (to & fro) is in the Scope of Bidder
B	**Yearly Checks**
11	All Quarterly Checks
C	Load Test of Battery Bank, once in the Contract Period.

VIII. Protection Relays (Numerical relays) in 33 kV Switchgear

SN	Description
A	**Half Yearly Checks**
1	Check the Display unit for proper visibility
2	Verify the relay settings against approved settings
3	Clear the old Disturbance records, after downloading
4	Clean the exterior of housing with lint free cloth / blower
5	Check the Tightness of all Connections in REF/RED/RET relay
6	Check Tightness of CT connection TBs
7	Check the fixing of connector cable of Relay.
8	Check the tightness of mounting screws of the relay and housing
9	Check Tightness of CT connection TBs, Aux TBs, monitoring screws related to Combi flex relay
B	**Bi-Yearly Checks**
1	Check the Cable fault Alarm relay function and operating time
2	Inject Current OR Voltage & Check the Relay function and operating time
3	Cleaning of CT and auxiliary contacts of the relay and housing (Lint free IPA-soaked cloth and IPA solution will be provided by BMRCL)
4	After completion of the maintenance verify the Approved settings in Relay
5	By field simulation, Verify the Trip & alarm indication in TPC's Console
6	Dismantling of the relay and through cleaning of the relay cards
7	Replacement of Defective Relay on Need Basis • Transportation of Relay to the station from BMRCL Depot/stores. • Dismantling of faulty Relay. • Erection, Testing by Secondary Injection Method and Commissioning of new/spare Relay. • Shifting of Faulty Relay to the BMRCL Depot/Stores.

SECTION 9: BILL OF QUANTITIES / PRICE SCHEDULE

INSTRUCTIONS FOR COMPLETING PRICE SCHEDULE (VOLUME – 2)

(1) The Tenderer shall fill in and complete the Bill of Quantities (Financial Package) online through Karnataka Public Procurement Portal (eProcurement portal) only and no hardcopy of commercials should be attached or disclosed elsewhere.

(2) The total Tender price shall be inclusive of all applicable Taxes and duties under the applicable Acts but **exclusive of CGST & SGST**. BMRCL shall pay the applicable CGST & SGST as per law.

(3) The Prices shall be quoted rounding off to nearest two decimal places only, so as to match the total amount or closest to the total amount

(4) Item for which no rate or price has been entered in will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities (refer: ITT Clause 11.2 and CC Clause 37.2).

(5) Unit rates and prices shall be quoted by the Tenderer in Indian Rupees.

(6) Where there is a discrepancy between the rate in figures and words, the lower of the two will govern. [ITT Clause 24.1(a)]

(7) Where there is a discrepancy between the unit rate and the line-item total resulting from multiplying the unit rate by quantity, the unit rate quoted shall govern [ITT Clause 24.1 (b)]

SECTION 10: ADDITIONAL DOCUMENTS

ADDITIONAL DOCUMENT - 1	FORMAT OF DECLARATION TOWARDS LITIGATION / ARBITRATION / DEBARMENT / BLACKLISTING
ADDITIONAL DOCUMENT - 2	UNDERTAKING
ADDITIONAL DOCUMENT - 3	CERTIFICATE FOR COMPLIANCE OF RESTRICTIONS IN REGARD TO PROCUREMENT FROM BIDDERS FROM COUNTRIES SHARING LAND BORDERS WITH INDIA
ADDITIONAL DOCUMENT - 4	FINANCIAL DATA
ADDITIONAL DOCUMENT - 5	DETAILS OF BIDDER AND BANK ACCOUNT
ADDITIONAL DOCUMENT - 6	CHECKLIST
ADDITIONAL DOCUMENT – 7	FORM OF TENDER SECURING DECLARATION
ADDITIONAL DOCUMENT - 8	FORM FOR SEEKING PRE-BID CLARIFICATION ON TENDER DOCUMENT

.

Additional Document – 1

FORMAT OF DECLARATION TOWARDS LITIGATION / ARBITRATION / DEBARMENT / BLACKLISTING

(letterhead paper of the Tenderer)

We, M/s. ..... [Name of the Bidder]……, herein after called "the Contractor", do hereby affirm and declare that we have NOT been involved in any Litigation / Arbitration AND NOT been Black listed /Debarred by any Government / Government undertaking / Semi-Government / Govt. Controlled Institutions/Projects/ Reputed private organizations in India.

In case it is found that above statement is not true, any time during effect of this Bid or currency of the Contract entered between the parties based on the above statement, BMRCL reserves its rights to terminate the Contract and forfeit the Tender Security / Security Deposit (Performance Security) at its discretion**.**

Place:

Date:

Signature of the Bidder

Name:

Designation:

Seal of the Company:

Phone:

Additional Document – 2

UNDERTAKING

(letterhead paper of the Tenderer)

We, M/s ……. [Name of the Bidder] ……. herein after called “the Contractor”, do hereby affirm and undertake to abide by all the terms, conditions and specifications given in the Bid document while performing the contractual obligations relating to ……...(Name of the work)……... of BMRCL, Bangalore. We do hereby affirm and undertake to follow all labour laws that are applicable from time to time.

We also undertake that the Bid submittals do not contain any deviation or amendment or modification or change of any type whatsoever with Bid conditions and specifications.

We, also hereby affirm and declare that we have NOT been under any type of liquidation, court receivership or similar proceedings, not has been bankrupt.

In case it is found that above statement is not true, any time during effect of this Bid, BMRCL reserves its rights to reject our Bid.

Place:

Date:

Signature of the Bidder

Name:

Designation:

Seal of the Company:

Phone:

Additional Document – 3

CERTIFICATE FOR COMPLIANCE OF RESTRICTIONS IN REGARD TO PROCUREMENT FROM BIDDERS FROM COUNTRIES SHARING LAND BORDERS WITH INDIA

[letterhead paper of the Tenderer]

I/We *M/s..... **[Name of the Bidder]*** *……..,* herein after called "the Contractor", have read the clause regarding restrictions on procurement from a Bidder of a country which shares a land border with India (Restrictions in regard to procurement from the Bidders from countries sharing land borders with India and in this regard I/We certify that

(Please tick either (a) or (b) below as applicable and strike out the option which is not applicable)

a. I/We certify that I am not from such a country; ☐

(or)

b. I/We am from such a country and have been registered with the Competent Authority. I/We hereby certify that I/We fulfil all requirements in this regard and eligible to be considered. Evidence of valid registration by the Competent Authority is attached. ☐

Place:

Date:

Signature of the Bidder

Name:

Designation:

Seal of the Company:

Phone:

Additional Document – 4

FINANCIAL DATA

(Tenderer must fill in this form)

Tenderer's name …… Date……..

S.N.	Description	Financial Data for Latest Last five (5) Years (in INR)				
		2020-21	2021-22	2022-23	2023-24	2024-25
1.	Total Assets					
2.	Current Assets					
3.	Total Liabilities					
4.	Current Liabilities					
5.	Total revenue					
6.	Profits Before Interest & Taxes					
7.	Profit before taxes after Interest					
8.	Profits After Taxes					
9.	Net Worth*					
10.	Working Capital [=2 - 4]					
11.	Cash Flow from operating activities					
12.	**Annual Turnover**					

***Net worth** means the aggregate value of the paid-up share capital and all reserves created out of the profits and securities, premium account after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of revaluation of assets, write-back of depreciation and amalgamation.*

- Attached copies of the audited balance sheets, including all related notes, income statements for the last five years, as indicated above, complying with the following conditions.
  - Financial statements must be audited by a certified chartered accountant
  - Financial statements must be complete, including all notes to the financial statements.
  - Financial statements must correspond to accounting periods already completed and audited (no statements for partial periods will be accepted).
  - **Additional Document - 4 to be signed by the practicing Chartered Accountant.**

- Financial data of each year submitted in foreign currency shall be converted to Equivalent INR at the exchange rate of 'Reserve Bank of India' prevailing on 31st March/ 31st December of the respective financial year.

Signature of the Bidder

Additional Document – 5

DETAILS OF BIDDER AND BANK ACCOUNT

- Name of the Firm/Bidder:
- Contact person:
- Mobile No.:
- Email ID:
- Name of the account to which amount to be remitted:
- Complete Address:
- Name of the Bank:
- Branch:
- Address of the Bank Branch:
- Account Type:
- Account Number:
- IFS Code of the Bank Branch:
- MICR Code of the Bank Branch:
- Whether a cancelled Cheque of the Bidder / Firm is submitted: Yes or No (please tick)

Certified that the information furnished above is correct.

Signature of the Bidder

Additional Document – 6

CHECK LIST

(A) The following check list is intended to help the Bidders in submitting offer which are complete. An incomplete offer is liable to be rejected. Bidders are advised to go through the Bid documents and the list carefully and take necessary action.

(B) Bidders are also required to upload of the checklist, duly marked, along with their offer.

The Bid submittals shall consist of the following:

a.	Earnest Money Deposit.	Submitted / Not Submitted
b.	Notarized Power of Attorney / Attested copy of the Partnership deed / Ownership record to demonstrate the authority to sign the Bid submittals.	Submitted / Not Submitted
c.	Copy of PAN card.	Submitted / Not Submitted
d.	Copy of GST Registration Certificate.	Submitted / Not Submitted
e.	Evidence of Bidder as per Qualification Requirements (Clause 3 of ITB).	Submitted / Not Submitted
f.	Declaration towards Litigation / Arbitration /Debarment / Blacklisting on the Bidder's Letter Head as per **Additional Document – 1.**	Submitted / Not Submitted
g.	Undertaking as per **Additional Document – 2**	Submitted / Not Submitted
h.	Certificate For Compliance of Restrictions in Regard to Procurement From Bidders From Countries Sharing Land Borders With India as per **Additional Document – 3.**	Submitted / Not Submitted
i.	Financial data signed by CA as per **Additional Document – 4.**	Submitted / Not Submitted
j.	Banker's Certificate as per Section 3 Cl 1.10	
k.	'Form of Tender' on letterhead paper of the Tenderer (Section 4)	Submitted / Not Submitted
l.	Details of Bidder and Bank Account of Bidder **Additional Document – 6** along with cancelled cheque.	Submitted / Not Submitted
m.	Schedule of Prices / Price Schedule through E-Procurement Portal as per Section 9	Submitted / Not Submitted

Note: - The above list is not exhaustive, any other document/s which are required as per the Bid document shall be submitted.

Signature of the Bidder

Additional Document - 7

FORM OF TENDER SECURING DECLARATION

(letterhead paper of the Tenderer in case of Tenderer claims MSE exemption under ITT Clause 13.7)

Tender No.: _____ Date: _____

To:

Bangalore Metro Rail Corporation Ltd (O&M Wing)

Baiyappanahalli Depot, Administrative Building,

Near NGEF Signal, Old Madras Road, Baiyappanahalli,

Bangalore- 560038, Karnataka, India.

I/We, the undersigned, declare that:

I/We understand that, according to the Tender conditions, Tenderers must be submitted with a Tender - Securing Declaration.

I/We accept that I/we will automatically be suspended/debarred from participating in the Tendering process in any Tender of BMRCL for the period of **two (2) years starting from the day of suspension/ debarment**, if I/we am/are in breach of our obligation(s) under the Tender conditions, because I/we:

(a) have withdrawn, modified, amended, impaired or derogated our Tender during the period of Tender validity specified in the Form of Tender or any extension thereto provided by us; or

(b) do not accept the correction of errors in pursuant to ITT clause 24; or

(c) having been notified of the acceptance of our Tender by the Employer during the period of Tender validity,

(i) fail or refuse to furnish the Security Deposit, in accordance with the ITT clause 29; or

(ii) fail or refuse to sign the Contract agreement, if required,

Signed: _____

In the capacity of _____

Name: _____

Duly authorized to sign the Tender for and on behalf of: _____

Dated on _____ *day of* _____, _____

Corporate Seal (where appropriate)

Additional Document – 8

FORM FOR SEEKING PRE-BID CLARIFICATION ON TENDER DOCUMENT

Name of the Tenderer: .....

SN	Page No.	Section No.	Clause No.	Tender Condition	Tenderer's Queries
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

……..……

……..….

Signature of the Tenderer

---XXX---

SECTION 11 : FORMAT OF BANK GUARANTEE

Annexure – 1

FORM OF BANK GUARANTEE FOR TENDER SECURITY / EARNEST MONEY DEPOSIT

To

BANGALORE METRO RAIL CORPORATION LIMITED (BMRCL)
ADMIN BUILDING, BAIYAPPANAHALLI DEPOT,
OLD MADRAS ROAD, NEAR NGEF BUS STOP,
BAIYAPPANAHALLI, BANGALORE - 560 038.
KARNATAKA, INDIA.

1. **WHEREAS "**……*(Name and Address of the Tenderer) ……..."* (herein after called the "Tenderer") has undertaken for submission of Tender in pursuance of Contract No. …… (*Work of ……...)* Bangalore Metro Rail Project to be specified) (hereinafter called "the Tender")
2. **AND WHEREAS** it has been stipulated in the concerned Tender notification issued by Bangalore metro Rail Corporation Limited (BMRCL) which expression shall unless repugnant to the context or the meaning thereof, include its successors, administrators, executors and assignees, herein after called the Employer) to the Tenderer that the Tenderer shall furnish to EMPLOYER (BMRCL) with a Bank Guarantee as per the conditions of the Tender, from an Indian scheduled Bank (excluding Cooperative Bank) or from a schedule Foreign Bank as defined in Section 2(e) of RBI Act 1934 r/w second schedule for, the sum specified herein below as Tender security for compliance of the obligation and performance, in accordance with the concerned Tender conditions.
3. **AND WHEREAS we…… (the name and full address of the Bank including Email address) …… having registered office at ……. (hereinafter referred to as the issuing Bank) which expression shall unless repugnant to the context or the meaning thereof, include its successors, administrators, executors and assignees, do hereby agree to give the Contractor such a Bank Guarantee, drawn and payable at Bangalore …… through Bangalore Branch.**
4. **NOW therefore, we hereby affirm that we are the guarantor and responsible to EMPLOYER (BMRCL)** and their successor, on behalf the Tenderer up to a total sum of Indian Rupees of Rs. …… (*amount of Guarantee to be specified in figure and words*)…….. and we hereby further unconditionally, irrevocably and without demur undertake to immediately pay you, upon your first written demand and without cavil, or arguments any sum or sums within the limits of Indian Rupee…….. (*Bank guarantee amount to be specified*) as aforesaid without your needing to prove or to show grounds or reasons for your demand, by depositing/crediting to the Current A/c. of EMPLOYER (BMRCL), the sums specified therein.
5. This Bank Guarantee is encashable or extendable at our designated Branch in Bengaluru (Bangalore) Karnataka, India, as mentioned below:

Name of the Bank, Branch and contact details Address
Telephone no: & Fax No:
E-mail Address
Branch Manager Name& Mobile No:
Bank Zonal Office Address, Telephone No, Fax Number,
E-mail Address

.

6. “This Bank Guarantee shall be encashed unless renewed by the Contractor at the request of the Employer, before the due date”.
7. The Bank is liable to pay the EMPLOYER (BMRCL), any amount up to and inclusive of the aforementioned full amount upon written order from the EMPLOYER (BMRCL). The Bank will pay the money required by the EMPLOYER (BMRCL) immediately on demand without delay without reference to the Tenderer and without the necessity of a previous notice or of judicial or administrative procedures and without it being necessary to prove to the Bank the liability or damages resulting from any defects or shortcomings or debts of the Tenderer.
8. BMRCL shall have full rights to encash this Bank Guarantee at any time during the guarantee period and the Tenderer shall have no right or claim whatsoever in the matter of encashment of the Bank Guarantee amount by the Employer (BMRCL). The Bank will have their responsibility in terms of the guarantee and obligation, to make immediate payment to the EMPLOYER (BMRCL), without the consent of the Tenderer and without referring the matter to the Tenderer.
9. Courts at Bangalore, Karnataka, India shall have exclusive jurisdiction to adjudicate disputes arising out of encashment of the Guarantee, and we, the said Bank, undertake not to revoke this Guarantee during its currency, except with the previous consent of the Employer in writing and agree that any change in the constitution of the Bank shall not discharge our liability hereunder.
10. This Bank Guarantee will not be discharged due to the change in the constitution of the Tenderer or change in the constitution of the issuing bank
11. This guarantee is executed and issued by Shri …… who is/are authorized by the Bank for issuing the guarantee in its behalf and his ID No. and Email address being……...
12. The Banks liability under this Guarantee shall not exceed the amount of INR…… (to be specified in words and figures……).
13. This guarantee shall be valid for (period to be specified) till ……(Period to be mentioned).
14. The pendency of any dispute or arbitration or other proceedings shall not affect this guarantee in any manner.
15. It is hereby agreed that the liability of the Bank under this guarantee shall cease on the first occurrence of either of the following events:

a) Payment by the Bank of the Guaranteed sum in full to the Employer/ BMRCL

or

b) Receipt of written communication from the Employer/BMRCL, to the issuing Bank, along with the Original Bank Guarantees discharging the Bank of its liability covered by this Bank Guarantee.

SIGNATURE AND SEAL OF THE GUARANTOR
NAME OF THE BANK……
ADDRESS……

Note:

1. *The stamp papers of appropriate value shall be purchased in the name of the Bank, who issue the Bank Guarantee.*
2. *The Bank Guarantee shall be from an Indian Scheduled bank (excluding Cooperative Banks) or from a schedule Foreign Bank as defined in Section 2(e) of RBI Act 1934 read with Second Schedule, preferably drawn on and payable & extendable at a designated branch at Bangalore only.*

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ANNEXURE – 2

FORM OF BANK GUARANTEE FOR PERFORMANCE OF CONTRACT

To,

BANGALORE METRO RAIL CORPORATION LIMITED (BMRCL)

ADMIN BUILDING, BAIYAPPANAHALLI DEPOT,

OLD MADRAS ROAD, NEAR NGEF BUS STOP,

BAIYAPPANAHALLI, BANGALORE - 560 038.

KARNATAKA, INDIA.

1. **WHEREAS"**……*(Name and Address of the Contractor) ……....."* (herein after called the "Contractor") has undertaken for due performance of Contract, in pursuance of Contract No…… (*Description of the Contract work of Bangalore Metro Rail Project to be specified)* (Herein after called "the Contract")

2. **AND WHEREAS** it has been stipulated in the concerned Contract awarded by Bangalore Metro Rail Corporation Limited (BMRCL) hereinafter called the "Employer" which expression shall unless repugnant to the context or the meaning thereof, include its successors, administrators, executors and assignees, to the Contractor that the Contractor shall furnish to EMPLOYER (BMRCL) with a Bank Guarantee for due performance of Contract from an Indian scheduled Bank (excluding Cooperative Bank) or from a schedule Foreign Bank as defined in Section 2(e) of RBI Act 1934 read with second schedule for, the sum specified herein below as security for compliance of the obligation and performance of the Contractor, in accordance with the concerned Contract.

3. **AND WHEREAS** we…… *(The name and full address of the Bank including Email address)* having registered office at …….. (hereinafter referred to as the issuing Bank) which expression shall unless repugnant to the context or the meaning thereof, include its successors, administrators, executors and assignees, do hereby agree to give the EMPLOYER (BMRCL) on behalf of the Contractor such a Bank Guarantee, drawn and payable at Bangalore ……. through our Bangalore ..... Branch.

4. **NOW therefore**, we hereby affirm that we are the guarantor and responsible to EMPLOYER (BMRCL) and their successors, on behalf of the Contractor up to a total sum of …… (*Amount of Guarantee to be specified in figure and words*), such sum being payable in the respective currencies in which the Contract Price is payable. Further, we hereby unconditionally, irrevocably and without demur undertake to immediately pay you, upon your first written demand and without cavil, or arguments any sum or sums within the limits of the sum specified in this Bank Guarantee as aforesaid without you being required to prove or to show grounds or reasons for your demand, by depositing/crediting to the Current A/c. of EMPLOYER (BMRCL), the sums specified.

5. This Bank Guarantee is encashable or extendable at our designated Branch in Bengaluru (Bangalore) Karnataka, India, as mentioned below:

   Name of the Bank, Branch and contact details

   Address

.

Telephone no: & Fax No:

E-mail Address

Branch Manager Name& Mobile No:

Bank Zonal Office Address, Telephone No, Fax Number,

E-mail Address

6. "This Bank Guarantee shall be encashed unless renewed by the Contractor at the request of the Employer, before the due date".

7. BMRCL shall have rights to encash this Bank Guarantee at any time during the guarantee period and the Contractor shall have no right or claim whatsoever in the matter of encashment of the Bank Guarantee amount by the Employer. The Bank will have their responsibility in terms of the guarantee and obligation, to make immediate payment to the EMPLOYER (BMRCL), without the consent of the Contractor and without referring the matter to the Contractor.

8. The Bank shall be liable to pay the EMPLOYER (BMRCL), any amount up to and inclusive of the aforementioned full amount upon written order from the EMPLOYER (BMRCL) to indemnify the BMRCL for any liability of damage resulting from any defects and/or shortcomings of the Contractor and/or the debts the Contractor may have incurred, to EMPLOYER (BMRCL) and/or any parties involved in the Works under the Contract mentioned above, whether these defects and/or shortcomings and/or debts are actual and/or estimated and/or expected. The Bank will deliver the money required by the EMPLOYER (BMRCL) immediately on demand without delay without reference to the Contractor and without the necessity of a previous notice or of judicial or administrative procedures and without it being necessary to prove to the Bank the liability or damages resulting from any defects or shortcomings or debts of the Contractor.

9. Courts at Bangalore, Karnataka, India shall have exclusive jurisdiction for adjudicating the disputes arising out of encashment of the Guarantee, and we, the said Bank undertake not to revoke this Guarantee during its currency, except with the previous consent of the Employer in writing and agree that any change in the constitution of the Bank shall not discharge our liability hereunder.

10. This Bank Guarantee will not be discharged due to the change in the constitution of the Contractor or change in the constitution of the issuing bank.

11. This Deed of guarantee is signed and executed by Shri …….…… who is/are authorized by the Bank for issuing the guarantee in its behalf and his ID No. and Email address being ……..

12. The Bank's liability under this Guarantee shall not exceed the amount of INR ……...……. (to be specified in words and figures……..……)

13. This guarantee shall be valid for (period to be specified) till …….…… (period to be mentioned).

14. The pendency of any dispute or arbitration or other proceedings shall not affect this guarantee in any manner.

15. It is hereby agreed that the liability of the Bank under this guarantee shall cease on the happening of any of the following events:

a) Payment by the Bank of the Guaranteed sum in full to the Employer/BMRCL

.

or

b) Issue of written communication by the Employer / BMRCL, to the issuing Bank, along with the Original Bank Guarantees discharging the Bank of its liability covered by this Bank Guarantee.

Date: SIGNATURE AND SEAL OF THE GUARANTOR

NAME OF THE BANK……

ADDRESS……

Note:

1. The stamp papers of appropriate value shall be purchased in the name of the Bank, who issue the Bank Guarantee.

2. The Bank Guarantee shall be from an Indian Scheduled Bank (excluding Co-operative banks) or from a Scheduled Foreign Bank as defined in section 2(e) of RBI Act,1934 read with second schedule, preferably drawn on and payable & extendable at a designated Branch a Bangalore only.

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ಬೆಂಗಳೂರು ಮೆಟ್ರೋ ರೈಲ್ ನಿಗಮ ನಿಯಮಿತ
BANGALORE METRO RAIL CORPORATION LIMITED

BANGALORE METRO RAIL CORPORATION LTD

(A joint venture of Government of India and Government of Karnataka)

O&M Wing, Baiyappanahalli Depot

Bangalore-560038, Karnataka, India (Address)

Telephone : 080 - 25191038

Tender document for

ANNUAL MAINTENANCE CONTRACT (AMC) OF 33 KV SWITCHGEARS, DRY TYPE TRANSFORMERS, ACDB, DCDB AND BATTERY BANK AT REACH-5 AND REACH-6 (ELEVATED) STATIONS INCLUDING DEPOTS

VOLUME 2

FINANCIAL PACKAGE

(BOQ / PRICE SCHEDULE)

Tender reference	**BMRCL/O&M/33 KV AMC-R5&R6**
Time and date of opening of cover two of tenders	**As per Date and Time specified in Karnataka Public Procurement Portal (eProcurement Portal)**
Place of opening of cover two of tenders	**Online through Karnataka Public Procurement Portal (eProcurement Portal)**

BOQ / PRICE SCHEDULE

TENDER TOTAL

SN	Description	Amount in INR
1	CAMC cost for 1st year	
2	CAMC cost for 2nd year	
3	CAMC cost for 3rd year	
4	CAMC cost for 4th year	
5	CAMC cost for 5th year	
6	**Total Cost for Schedule A (AMC Cost for 5 years)**	
7	Total Cost for Schedule-B (Mandatory Supply and Replacement on Need Basis)	
8	Total Cost for Schedule - C (Need Based Activities)	
9	**Tender Total in INR**	

Seal & Signature of the Tenderer

Note:

1. The Tenderer shall fill in and complete the Bill of Quantities (Financial Package) online through Karnataka Public Procurement Portal (eProcurement portal) only and **no hardcopy of commercials should be attached or disclosed elsewhere.**
2. The total Tender price shall be inclusive of all applicable Taxes and duties under the applicable Acts but exclusive of CGST & SGST. BMRCL shall pay the applicable CGST & SGST as per law
3. The Prices shall be quoted rounding off to nearest two decimal places only, so as to match the total amount or closest to the total amount
4. Item for which no rate or price has been entered in will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities (refer: ITT Clause 11.2 and CC Clause 37.2)
5. Unit rates and prices shall be quoted by the Tenderer in Indian Rupees
6. Where there is a discrepancy between the rate in figures and words, the lower of the two will govern. [ITT Clause 24.1(a)]
7. Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by quantity, the unit rate quoted shall govern [ITT Clause 24.1 (b)

SCHEDULE -A1 - UNDER WARRANTY / DLP

SN	Description	Stations	UOM	Qty	First Year		Second Year		Third Year		Fourth Year		Fifth Year	
					Rate (₹)	Amount (₹)	Rate (₹)	Amount (₹)	Rate (₹)	Amount (₹)	Rate (₹)	Amount (₹)	Rate (₹)	Amount (₹)
1	Charges towards Maintenance of Traction & Auxiliary Sub Station Comprising of 33 kV Switchgears, Traction & Auxiliary Transformers, ACDB, DCDB & Battery Bank	R5 Section HSKR ETCN ETCT BSRD MSRN OFDC HSRL BTML JDGP R6 Section HLMU TVKR IIMB JYDH	No of Stations	13					NA	NA	NA	NA	NA	NA
2	Charges towards Maintenance of Traction & Auxiliary Sub Station Comprising of 33 kV Switchgears, Traction & Auxiliary Transformers, ACDB, DCDB & Battery Bank	R5 Section RVR BMSD HBGD SBRSS R6 Section KLAG KRSS	No of Stations	6					NA	NA	NA	NA	NA	NA
3	Charges towards Maintenance of Auxiliary Sub Station Comprising of 33 kV Switchgears, Auxiliary Transformers, ACDB, DCDB & Battery Bank	R5 Section SBJT HBGI HOSR CKBR RGDT R6 Section JPN IV Baiyappanhalli Depot OCC ASS - 2	No of Stations	7					NA	NA	NA	NA	NA	NA
3	CAMC cost per Year								NA		NA		NA	
4	**Grand Total of CAMC Cost for 5 years (Excl of GST)**													

SCHEDULE -A2 - OUT OF WARRANTY / DLP

SN	Description	Stations	UOM	Qty	First Year		Second Year		Third Year		Fourth Year		Fifth Year	
					Rate (₹)	Amount (₹)	Rate (₹)	Amount (₹)	Rate (₹)	Amount (₹)	Rate (₹)	Amount (₹)	Rate (₹)	Amount (₹)
1	Charges towards Maintenance of Traction & Auxiliary Sub Station Comprising of 33 kV Switchgears, Traction & Auxiliary Transformers, ACDB, DCDB & Battery Bank	R5 Section HSKR ETCN ETCT BSRD MSRN OFDC HSRL BTML JDGP R6 Section HLMU TVKR IIMB JYDH	No of Stations	13	NA	NA	NA	NA						
2	Charges towards Maintenance of Traction & Auxiliary Sub Station Comprising of 33 kV Switchgears, Traction & Auxiliary Transformers, ACDB, DCDB & Battery Bank	R5 Section RVR BMSD HBGD SBRSS R6 Section KLAG KRSS	No of Stations	6	NA	NA	NA	NA						
3	Charges towards Maintenance of Auxiliary Sub Station Comprising of 33 kV Switchgears, Auxiliary Transformers, ACDB, DCDB & Battery Bank	R5 Section SBJT HBGI HOSR CKBR RGDT R6 Section JPN IV Baiyappanhalli Depot OCC ASS - 2	No of Stations	7	NA	NA	NA	NA						
3	CAMC cost per Year				NA		NA							
4	**Grand Total of CAMC Cost for 5 years (Excl of GST)**													

SCHEDULE - B

MANDATORY SUPPLY AND REPLACEMENT OF ITEMS ON NEED BASIS

SN	Description of Item	Specification	Equivalent Make	UOM	Qty	Unit Rate (₹)	Total Cost (₹)
1	MCB	xC60-AC, 2P, 16A, C	Schneider Electric	No	5		
2	MCB	C60H-DC, 2P, 16A, C	Schneider Electric	No	5		
3	MCB	C60H-DC, 2P, 4A, C	Schneider Electric	No	5		
4	MCB	C60H-DC, 2P, 4A, C	Schneider Electric	No	5		
5	MCB	C60H-DC, 2P, 4A, C	Schneider Electric	No	5		
6	MCB	xC60, 4P, 4A, C	Schneider Electric	No	5		
7	Auxiliary contact for MCB	OF, ACTI9	Schneider Electric	No	20		
8	MCB	xC60, 4P, 4A, C	Schneider Electric	No	2		
9	MCB	xC60, 2P, 4A, C	Schneider Electric	No	2		
10	Plug in relay with Base & lamp	Zelio RXM Miniature relay, 4 CO, Ith=6A, with LED indication, 110 VDC,With socket & Clamp	Schneider Electric	No	10		
11	Plug in relay with Base & lamp	Zelio RXM Miniature relay, 2 CO, Ith=12A, with LED indication, 110 VDC,With socket & Clamp	Schneider Electric	No	10		
12	Protection Relay	REL52047 Easergy P3U30, 4L ringlug, 4U, 14DI/10DO, Uaux: 48-230V, 2 x RJ-45	Schneider Electric	No	1		
13	Protection Relay	Easergy P3L30, 110-230 V 5xDO Heavy Duty, 6DI+4DO, 3L+2I0+4U ring Lugs, 2RJ	Schneider Electric	No	1		
14	Protection Relay	Easergy P3U30, 4L ringlug, 4U, 16DI/8DO, Uaux: 48-230V, DI: 110-230V, 2 x RJ-45, P3U306AAA2BCAA (For Trafo Panel)	Schneider Electric	No	1		

SN	Description of Item	Specification	Equivalent Make	UOM	Qty	Unit Rate (₹)	Total Cost (₹)
15	Protection Relay	Easergy P3T32, Transformer protection relay with differential protection, P3T32-CGG1A-AA2NA-BBAAA (Trafo diff relay)	Schneider Electric	No	1		
16	Digital Ammeter	DM3110. Inbuilt Selector Switch, 3-Phase, Aux Supply:48-250V, 96 Sqmm Size, Accuracy Class 0.5, Programmable	Schneider Electric	No	10		
17	Digital Voltmeter	DM3210. Inbuilt Selector Switch, 3-Phase, Aux Supply:48-250V, 96 Sqmm Size, Accuracy Class 0.5, Programmable	Schneider Electric	No	10		
18	Earth Switch 1000mm	Earth Switch 1000mm	Schneider Electric	No	1		
19	33KV Vacuum Cicuit Breaker 1250A PIX 36	33 kV VCB, Rating:1250A, STC Rating:25 kA, Closing & Tripping Coil : 110 V DC, Undervoltage Coil 110 V DC, Motor: 110 VAC/DC, New Vep Auxiliary Type Wiring, w/o Castle Key	Schneider Electric	No	1		
20	33KV Vacuum Cicuit Breaker 1600A PIX 36	33 kV VCB, Rating:1600A, STC Rating:25 kA, Closing & Tripping Coil : 110 V DC, Undervoltage Coil 110 V DC, Motor: 110 VAC/DC, New Vep Auxiliary Type Wiring, w/o Castle Key	Schneider Electric	No	1		
21	Emergency Push Button (Mushroom Push Button) Latching Turn to release Stay Put	22.5 mm, Red, 2NO 2NC, XB5AS542N + ZBE101N (2 Nos) + ZBE102N (2 Nos)	Schneider Electric	No	20		
22	Solenoid Coil	Solenoid Coil for Earth Switch Interlock	Schneider Electric	No	10		
23	PCB Based terminal block assembly	For Communication wire looping, Current rating-5A, To be mounted with PVC Bush	STS/SE APPROVED	No	1		
24	Voltage Indicating Unit	VIU05 96 Sq.mm Aux.Supply 110V DC, System Voltage: 3.3 kV To 33 kV	ECS	No	2		
25	Terminal Block (Rear Connected Type)	REAR CONNECTED TYPE, 3 PHASE 4 WIRE, LINK TYPE, PANEL MOUNTED ON DOOR ALONG WITH TEST HANDLE	JVS ELECTRONICS	No	2		
26	Test Terminal Block	TEST BLOCK, JRTB, WITH 2 TRIP BYPASS CONTACT Pin no (23,24,25,26) ALONG WITH TEST HANDLE	JVS ELECTRONICS	No	2		

SN	Description of Item	Specification	Equivalent Make	UOM	Qty	Unit Rate (₹)	Total Cost (₹)
27	Limit Switch Push Rod Type,	Contacts: 1NO+1NC	KAYCEE	No	5		
28	Potential Transformer	1Ph -PT -Earthed, 50 VA,Cl-0.2, Wdg2: 50 VA,3P, 33 kV/Rt3/110V/Rt3/110V/Rt3-110V/3, Bil:36 kV/70 kV/ 170 kVp, Drg No: VDRB05707-05, Rear Line PT, OVF:1.2 Cont, 1.9 For 8 Hrs.	NPT/ECS	No	1		
29	Current Transformer	VDRB05707-01/VDRB05707-13, STC:25 kA/1Sec, Core1:10VA, Cl-0.2@Both Tap, Core2:10Va,Cl-5P15@Both Tap, Core-3: Ps, Vk>=162V, Io<=30 mA @Vk/2, Rct<=4Ohm@600A, Vk>=210V,Io <=30Ma@Vk/2, Rct<=6Ohm@800A, Secy-1A & P1 Side, BIL:36 kV/70 kV/170 kVp, Ctr : 800-600/1+1+1A	NPT/ECS	No	1		
30	Current Transformer	VDRB05707-01/VDRB05707-13, STC:25 kA/1Sec, Core1:10VA, Cl-0.2@Both Tap, Core2:10Va,Cl-5P15@Both Tap, Core-3: Ps, Vk>=162V, Io<=30 mA @Vk/2, Rct<=4Ohm@600A, Vk>=210V,Io <=30Ma@Vk/2, Rct<=6Ohm@300A, Secy-1A & P1 Side, BIL:36 kV/70 kV/170 kVp, Ctr : 600-300/1+1+1A	NPT/ECS	No	1		
31	Current Transformer	VDRB05707-01/VDRB05707-13, STC:25 kA/1Sec, Core1:10VA, Cl-0.2@Both Tap, Core2:10Va,Cl-5P15@Both Tap, Core-3: Ps, Vk>=162V, Io<=30 mA @Vk/2, Rct<=4Ohm@600A, Vk>=210V,Io <=30Ma@Vk/2, Rct<=6Ohm@800A, Secy-1A & P1 Side, BIL:36 kV/70 kV/170 kVp, Ctr : 1000-500/1+1+1A	NPT/ECS	No	1		
32	Current Transformer (for TR Trafo)	VDRB05707-01/VDRB05707-13, TC:25KA/1SEC, CORE1:10VA,CL-0.2, CORE2:10VA,CL-5P15, SECY-1A & P2 SIDE, BIL:36KV/70 NPT/ECS 49 KV/170KVP, CTR: 100-50/1+1A,	NPT/ECS	No	1		

SN	Description of Item	Specification	Equivalent Make	UOM	Qty	Unit Rate (₹)	Total Cost (₹)
33	Current Transformer (for 2MVA Trafo)	VDRB05707-01/VDRB05707-13, STC:25 kA/1Sec, Core1:10VA, Cl-0.2@Both Tap, Core2:10Va,Cl-5P15@Both Tap, Core-3: Ps, Vk>=150V, Io<=30 mA @Vk/2, Rct<=4.5Ohm@100A, Vk>=75V,Io <=30Ma@Vk/2, Rct<=2Ohm@50A, Secy-1A & P2 Side, BIL:36 kV/70 kV/170 kVp, Ctr : 100-50/1+1+1A	NPT/ECS	No	1		
34	Breaker Control Switch	25 A, 75 Sq. mm Switch, Non-Lockable, Pistol Grip, Cat No. RBC251P129R1, Legend: White Letter on Black Background, IS:6875, BC251P129R	RECOM	No	10		
35	Local - Remote Seletcor Switch	Local - Remote Selector Switch, 16 A, 4 Pole, 2 Ways, Lockable Rotary Switch, 88 Sqmm, Type: PD10416A/LM/TB3/L, Legend : 12 O clock-"Local"; 3 Oclock- "Remote", Bottom: LR Switch, IS:4064, Make : SPD10416SC88/LM/ TB3/L	RECOM	No	10		
36	Thermostat	30-110 Deg.C, with 1 m Wire for Sensing 15-250V AC	SAIEGO/SE	No	2		
37	Thermostat	30-110 Deg.C, with 3 m Wire for Sensing 15-250V AC	SAIEGO/SE	No	2		
38	Castle Key	33KV Vacuum Cicuit Breaker 1250A PIX 36	Schneider Electric	No	1		
39	Shutter	33KV Vacuum Cicuit Breaker 1250A PIX 36	Schneider Electric	No	1		
40	Closing Coil	33KV Vacuum Cicuit Breaker 1250A PIX 36	Schneider Electric	No	1		
41	Tripping Coil	33KV Vacuum Cicuit Breaker 1250A PIX 36	Schneider Electric	No	1		
42	Undervoltage Coil	33KV Vacuum Cicuit Breaker 1250A PIX 36	Schneider Electric	No	1		
43	Motor: 110 VAC/DC,	33KV Vacuum Cicuit Breaker 1250A PIX 36	Schneider Electric	No	1		
44	Pole	33KV Vacuum Cicuit Breaker 1250A PIX 36	Schneider Electric	No	6		

SN	Description of Item	Specification	Equivalent Make	UOM	Qty	Unit Rate (₹)	Total Cost (₹)
45	RCCB	100A FP 100mA Sensitivity	ABB/L&T	No	1		
46	Relay	3 Phase 3 Wire U/V, O/V Relay, 2CO	MINILEC/SELEC	No	1		
47	Relay	Voltage 75 - 95 UV, OV 105 - 1201 Adjustable, Trip Delay 1-10 sec, Auto Reset	MINILEC/SELEC	No	1		
48	MCB	63 A, 4P, D Curve with 1 C/O, 230 V AC	ABB/LAT	No	10		
49	MCB	32 A SP, 10 kA, C Curve	ABB/LAT	No	10		
50	MCB	125 A DP 110 V DC 10 kA C Curve	ABB/L&T	No	5		
51	MCB	32 A DP 110 V DC 10 kA C Curve	ABB/L&T	No	5		
52	Relay	UV Relay 110 V DC, Aux Supply 230 V AC	SECO/REPUTED	No	5		
53	DC Voltmeter	96 sq mm DC Analog / Digital Voltmeter +ve to E, -ve to Earth, +ve - -ve 0 to 60 V, 0 - 110 V DC	AE/EIC	No	5		
54	DC Ammeter	96 sq mm DC Analog / Digital Ammeter Cl 1, Range 0-125 A	AE/EIC	No	5		
55	Shunt	DC Shunt 125 A, 75 mV	AE/EIC	No	1		
56	Transducer	Voltage Transducer, Aux Supply 230 V AC, 110 V DC, 4-20 mA Dual Output	AE/EIC	No	1		
57	Selector (Rotary) Switch	Voltmeter Selector Switcg 10 A, 3 Way, 4P with OFF	KAYCEE	No	1		
58	Cables 4 C X 1.5 sq mm	Polycab	Un Armoured	mtrs	1000		
59	Cables 4 C X 2.5 sq mm	Polycab	Un Armoured	mtrs	1000		
60	Cables 12 C X 1.5 sq mm	Polycab	Armoured	mtrs	1000		
61	Temperature Scanner	4 Channel Scanners / DAQ Module, Universal Input Calibrated for RTD PT100 3W, 4 Relays, RS485	TR-7544-C	No	1		

SN	Description of Item	Specification	Equivalent Make	UOM	Qty	Unit Rate (₹)	Total Cost (₹)
62	Tablet Pc	13" or Equivalent equipped with the latest generation processor Storage 256 GB or Higher	Apple	No	4		
63	Wire (100 mtrs)	2.5 sq mm Red	Polycab	Bundle	5		
64	Wire (100 mtrs)	2.5 sq mm Yellow	Polycab	Bundle	5		
65	Wire (100 mtrs)	2.5 sq mm Blue	Polycab	Bundle	5		
66	Wire (100 mtrs)	2.5 sq mm Green	Polycab	Bundle	2		
67	Wire (100 mtrs)	2.5 sq mm Black	Polycab	Bundle	5		
68	Wire (100 mtrs)	2.5 sq mm Grey	Polycab	Bundle	2		
69	Wire (100 mtrs)	1.5 sq mm Grey	Polycab	Bundle	20		
70	Wire (100 mtrs)	1.5 sq mm Green	Polycab	Bundle	2		
71	Wire (100 mtrs)	4 sq mm Red	Polycab	Bundle	2		
72	Wire (100 mtrs)	4 sq mm Yellow	Polycab	Bundle	2		
73	Wire (100 mtrs)	4 sq mm Blue	Polycab	Bundle	2		
74	Wire (100 mtrs)	4 sq mm Black	Polycab	Bundle	2		
75	Lugs	Assorted Ring / Pin / Tube / Fork/ Flat / Inline type Size : 1.5 sq mm - 4 sq. mm Qty : 20000 no's	Hex	LS	1		
76	Voltage Detecting Insulator	MODEL : VDI33B-1 BIL: 36/70/170 Kvp	ECS	No	2		
77	Multi Function Meter	PowerLogic EM7200, Smart demand controller	Schneider Electric	Nos	5		
78	Aux Switches for CB Status	Suitable for 33 kV VCB PIX 36 1250 A / 1600 A	Schneider Electric	Nos	20		
79	SPACE HEATER	230V AC, 100W, 50Hz, END FIXING	APT	Nos	2		

SN	Description of Item	Specification	Equivalent Make	UOM	Qty	Unit Rate (₹)	Total Cost (₹)
80	DIODE	40 A, PIV - 1200 V, 110VDC, WITH HEAT SINK, CONTROL SUPPLY FROM 1 MAIN+1 STANDBY BUSES HAVING 4 NO 40A DIODE, TYPE: 40FMR400, DRG NO.: AH39C328889	DIN Mounted	Nos	2		
81	Redundancy Box (RED Box)	Intelligent, Rugged & IEC 61850 Compliant HSR/PRP Switch iRBX6GF Operating Temperature -40 to +85°C, Ingress Protection 40, Din Rail Mounting, Dual Redundant HV (110-370VDC/90-264VAC) PS, 6 x100/1000Base-X SFP (Blank no transceivers), 4 x SFP 100/1000Mbps TX RJ45, SGMII Transceiver 100m, -40°C to +85°C. Ordering Code-iRBX6GF-HV-HV-D-2GSFP-2GSFP-2GSFP+4 x SFP-SGMII-TX	iS5 Communicatio n	Nos	5		
82	Media Converter with Power Supply Unit	Model : IMC-C121FB-SS-SC with 110VDC to 24/48VDC 1A power converter (San Telequip, SMPS DIN-25W)	O-Ring	Nos	10		
83	Bus PT Trolley	33KV BPT(MTX), Make: PIX-36 NEW	Schneider Electric	Set	1		
84	Lock Nut	M5 - M16 assorted sizes SS G4 nut with washer	Reputed	Set	2000		
85	SS Fastners	M5 - M16 assorted sizes SS G4 Bolt, nut, 2B washer and Spring Washer	Reputed	Set	2000		
86	Timer	Static Timer Aux Supply 220 V AC/DC, 2 pair change over contacts, Range 0.1 - 1 sec, 0.4-4 sec, 3-30 sec, 0.4-4 MT, IS 3231, Type : RQT0002095	Alstom	No	1		
87	Rotary Switch	Selector Switch, 16 , 88 Sq mm Switch, 4 poles, 3 ways without off, Non-Lockable Rotary Switch, Type:S, PD13416SC289/LM/TA3, LEG: BOT L-S-R Selector Switch, 90 Clk-Local-12'o Clk - Supervisory, 3'o clk - Remote - IS 4064 (AIM switch)	RECOM	No	1		

SN	Description of Item	Specification	Equivalent Make	UOM	Qty	Unit Rate (₹)	Total Cost (₹)
88	Rotary Switch	Selector Switch, 16 , 88 Sq mm Switch, 6 poles, 4 ways, Non-Lockable Rotary Switch, Type:S, PD21616SC/LM IS-6875, LEG: BOT Trip Selector Switch, 90 Clk-IC2-12'o Clk - Off, 3'o clk - IC1, 6'o clk - BC - IS 4064 (AIM switch)	RECOM	No	1		
89	SFP module (Ethernet)	100Tx, Ethernet - RJ45, SFP module	Reputed	No	5		
90	**Grand Total (₹) (Excl of GST)**						

SCHEDULE - C

NEED BASED ACTIVITES

SN	Description of Item	UOM	Qty	Unit Rate (₹)	Total Cost (₹)
1	Replacement of Dry Type Transformer of ratings 2850 kVA / 2000 kVA / 500 kVA	Nos	2		
2	Replacement of 33 kV VCB	Nos	5		
3	Health Assessment / Testing of 33 kV Cables				
a	Partial Discharge Measurement Test using Damped AC Source	No. of Core	12		
b	Capacitance and Tan-delta (Dissipation Factor) Measurement using Very Low Frequency (VLF) Source	No. of Core	12		
c	Dielectric Withstand Test using Very Low Frequency Source	No. of Core	12		
d	Sheath Integrity Test	No. of Core	12		
4	Supply and Replacement of Battery Bank of rating				
a	110 V DC 180 AH	Set	1		
b	110 V DC 300 AH	Set	1		
c	110 V DC 695 AH	Set	1		
5	Supply and Installation of EPDM Module				
a	Suitable for 1R X [3 X (1C X 240)] mm2 33 kV FRLS Cu Cable – Cutout Size 255 mm X 300 mm	Nos	2		
b	Suitable for 8R X (1C X 300 sq. mm) 750 V DC Cu Cables – Cutout Size 255 mm x 400 mm	Nos	2		
c	Suitable for AAAC (120 sq mm), OFC & Control Cables – Cutout Size 250 mm X 300 mm	Nos	2		
6	Rectification of failed 33 kv cable	No. of Core	5		
7	Supply and Instllation of PQA Meter Elspec G4430 or Equivalent	Nos	1		
8	**Grand Total in Rupees (₹) (Excl of GST)**				